City of Fredericksburg, Virginia

Request for Proposals # 2015-AMB-01 for

Ambulance

Sole contact point for submissions:	Sole contract point for questions:
Teresa Payne, Administrative Assistant 540-479-1048, tpayne@fd.fredericksburgva.gov	Battalion Chief Charles Sterne 540-379-9425, csterne@fd.fredericksburgva.gov

Important dates:

RFP issuance	July 24, 2015
Deadline for proposers to ask questions	August 4, 2015
Deadline for City's responses to questions	August 11, 2015
Proposals due	August 19, 2015

Proposals should be delivered to 601 Caroline Street, Suite 700, Fredericksburg VA, 22401 by 1:00 p.m. on August 19, 2015.

Introduction

The City of Fredericksburg, Fire Department is requesting proposals for 1 current year model Ambulance. As outlined in **this RFP**.

The intent of this Request for Proposal and resulting contract is to obtain firm fixed price proposals for the purchase of one (1), Type III Ambulance. This proposal is done on the behalf of the City of Fredericksburg, Fire Department, which is an authorized EMS agency providing primary emergency medical transport within the City of Fredericksburg. This agency also provides these same services to surrounding jurisdictions through already existing mutual aid agreements. The City requests firm pricing on optional chassis as outlined in pages 83 – 86.

Ambulance(s) are to be completed and delivered within 150 to 180 days after receipt of the chassis and should be completed within 240 days after receipt of a signed purchase order. The City of Fredericksburg may also purchase additional ambulances from this contract during the next five years.

Proposer Eligibility Requirements

1. A Proposer must assume responsibility as prime contractor for this contract. Consortiums, joint ventures, or teams submitting proposals, although encouraged, must establish that all contractual

responsibility rests solely with one legal entity, which cannot be a subsidiary or affiliate with limited resources.

Subcontracting is only permitted with the City's advance written permission. Identify all proposed subcontractors in your proposal.

2. Proposers must be authorized to do business in Virginia, and registered with the Virginia State Corporation Commission. **Provide the full legal name of the proposer, as registered with the SCC, in the proposal**.

3. Any person currently debarred under Fredericksburg City Code § 2-411 cannot submit a proposal.

4. More than one proposal received in response to a single solicitation from a legal entity under the same or different names will be rejected. An entity acting only as a subcontractor may be included as a subcontractor for two or more proposers. Proposals may be rejected if reasonable grounds exist for believing that collusion exists among any proposers.

5. The City does not discriminate against proposers based on race, religion, color, sex, national origin, age, disability, or faith-based organization status.

Scope of Work

All proposals must meet or exceed the requirements in this RFP.

Proposers must offer a new commercially produced surface emergency medical care vehicle. This vehicle shall be in accord with the requirements of the Ambulance Design Criteria of the National Highway Traffic Administration, U.S. Department of Transportation, and Washington, DC. This proposal specification is based on the Federal Ambulance Specification KKK-A-1822F, effective August 1, 2007. Any reference numbers used in this specification refer to the applicable paragraphs of the Federal Ambulance Specification.

Type 1 – AD (Additional Duty), Class One (4x2), Configuration A Ambulance.

Manufacturer and Model Year

The chassis provided shall be a current model year GMC 4500 Cutaway.

Model Type

The chassis model shall be a current model year GMC G4500 with a GVW of 14,200 and a YF2 Ambulance Prep Package:

Specifications: listed in Exhibit A.

Instructions to Proposers

1. Do not submit copious amounts of general promotional material. Please focus on addressing the Scope of Work, in the format described under 'Proposal Format.'

2. All proposals must be received by 1:00 p.m. on the date specified on the RFP cover page, at the location specified on the cover page. Any proposal received after this time will not be considered. It is the proposer's responsibility to have their proposal in on time and at the correct location. Federal

Express and other overnight delivery services may not guarantee morning delivery to Fredericksburg, VA. Next day delivery usually arrives in mid-to-late afternoon.

3. Submit one paper version and one electronic version in Adobe PDF format.

4. Submit proposals on standard 8.5 x 11-inch paper. Each page must be clearly and consecutively numbered on each page.

5. The original proposal must be signed by an official authorized to legally bind the proposer to its terms. The signature must appear above the typed or printed name and title of the individual signing, include a statement that the signer is authorized to bind the proposer to its terms, and include a statement that the proposal is valid for at least 180 days from the proposal date.

6. All records pertaining to this procurement are open to inspection by the public under the Virginia Freedom of Information Act unless specifically exempted under Virginia Code § 2.2-4342. If you want portions of your proposal to be confidential, you must comply with § 2.2-4342(F), which requires that you (i) specifically invoke the protections of § 2.2-4342(F) before or upon submission of the data, (ii) identify the specific data to be protected, and (iii) state the reasons why protection is necessary. You cannot mark pricing information as confidential. If the City cannot tell which ***specific*** parts of the proposal are marked as confidential, if the entire proposal is marked as confidential, or if you do not completely comply with § 2.2-4342(F), the entire proposal is public information and the City will release it in response to valid records requests, in accordance with the timelines specified in § 2.2-4342(D).

7. The legal terms attached to this request are the terms that will govern any contract resulting from this request. You may propose edits to these terms and propose specific additional terms, but you may not attach your own set of standard terms or other documents containing terms that contradict or restate the City's terms.

8. The City may request clarification of submitted information and request additional information.

9. Any proposal may be withdrawn up until the time set for the opening of the proposal.

10. Any questions must be directed to the contact person listed on the RFP cover page. A written addendum signed by that person and posted at www.fredericksburgva.gov/Bids.aspx is the only means by which the City will issue official clarifications and information to this RFP. You are responsible for checking for addenda regularly. You may sign up for automatic notifications at: ***www.fredericksburgva.gov/list.aspx?Mode=Subscribe#bids.***

11. Proposals are binding offers. If the City accepts a proposal, the proposer is bound to the terms of the contract.

12. This program is contingent on available funding. The City may award multiple contracts or no contract. The City may negotiate with proposers and ask proposers to revise aspects of their proposals.

13. The City is not responsible for any costs incurred in preparing a proposal.

14. If the City determines that a proposer has made a material misstatement or misrepresentation, the City may eliminate the proposer from the RFP process.

15. By submitting a proposal in response to this RFP, a proposer grants the City permission to audit the proposer's financial and other records as they may relate to this procurement.

16. The City owns all information submitted to it in proposals under this RFP.

Proposal Format

1. A cover letter on stationary letterhead containing:
   1.1. A statement that the proposal is submitted in response to RFP# 2015-AMB-01.
   1.2. A statement indicating which individual (include name, title, address, phone number, and email address) is authorized to negotiate and contract with the City on behalf of the organization.
   1.3. A statement that the proposal is not the result of, or affected by, any act of collusion with another person (under Code of Virginia § 59.1-68.6 *et seq.*) engaged in the same line of business or commerce, or any act of fraud punishable under Article 1.1 of the Virginia Governmental Frauds Act (Code of Virginia § 18.2-498.1 *et seq.*).
   1.4. The signature of the person listed in #1.2.

2. A table of contents for the proposal.

3. A detailed description of the proposal being made, including:
   3.1. A brief synopsis of your understanding of the City's needs and how you plan to meet those needs. This must provide a broad understanding of the entire proposal;
   3.2. A narrative description of the proposed plan;
   3.3. A detailed project schedule or milestones;
   3.4. Explanation of any assumptions and constraints; and
   3.5. Identification of any additional services proposed.

4. A statement of experience, including:
   4.1. Proposer's full legal name (e.g. Fiber Company, LLC) and place of incorporation.
   4.2. Proposer's federal tax identification number.
   4.3. The number of year's proposer has been in business under its current name, previous business names, and a short history of the organization.
   4.4. A statement that the proposer has the capacity to meet the scope of work. Include an executive summary highlighting the qualifications of the proposer.
   4.5. Any applicable licenses or permits currently held and the ability to obtain any additional licenses or permits that may be required.
   4.6. The size and location of the specific office that will be serving the City.
   4.7. The personnel that will be serving the City, including names, qualifications, experience, and employment status (permanent or temporary, full-time or part-time).
   4.8. For every contract proposer has from the past three years (including ongoing contracts) for similar work, list (Virginia contracts first):
      4.8.1. Date of completion and duration of the contract;
      4.8.2. Type of work;
      4.8.3. Location of area served; and
      4.8.4. Name, address and contact information of agency with which contracted.
      4.8.5. If any of those contracts were terminated before the original termination date, state the date of termination and reason for termination. If none were terminated, state this.
   4.9. List all controlling interests in any other firms providing similar products or services, and financial interest in other lines of business. If none, state that you have none.

5. Describe all proposed subcontracting activities. Includes the full legal name and address of all subcontractors, the type of work to be performed, and the percentage of the total work they will perform.

6. Submit evidence of ability to obtain insurance in the amounts and coverages required by the legal terms of the contract.

7. Provide this additional information:
   7.1. Describe any exceptions to the City's requirements or clarifications to the requirements.
   7.2. State the case name and number, court, and give a general summary of any litigation pending or judgment rendered within the past 5 years against proposer or any of its previous legal entities.
   7.3. State whether the proposer or any of its officers or managers (i) is currently under suspension, debarment, voluntary exclusion, or determination of eligibility by any federal, state, or local agency, (ii) has been suspended, debarred, voluntarily excluded or determined ineligible by any agency within the past 5 years, (iii) has a proposed debarment pending, or (iv) has been indicted, convicted, or has a civil judgment rendered against it involving fraud or misconduct with the past 5 years.
   7.4. List any pending litigation in which proposer or any of its officers or managers is a named party.

Proposal Evaluation and Selection

1. All proposals will be initially evaluated to determine if they meet the following minimum requirements:
   1.1. The proposal must be complete, in the required format, and in compliance with all the requirements of this RFP.
   1.2. The proposal must meet the requirements of the scope of work.

2. The City may ask additional questions of proposers.

3. The City shall determine the best product based on price, specifications, overall needs, vendor integrity and references. The City, will then use the following criteria to review and evaluate proposals:

Evaluation Matrix		
Category	**Description**	**Points**
A	Warranty	1-20
B	Service	1-10
C	Safety Features	1-10
D	Safety Testing	1-10
E	Construction Photos	1-5
F	Complete Submission	1-5
G	Reference	1-20
H	Pricing	1-20
Total		**100**

4. The City will select up to at least three top proposals, and engage in individual discussions with those proposers. The City may request non-binding cost estimates at this time.

5. The City will then rank the selected proposals and negotiate with the proposers, starting with the top proposal, until a satisfactory contract (or contracts) have been negotiated.

6. The City may award a contract, multiple contracts, or no contract. The City may accept or reject any or all proposals, waive irregularities and technicalities, and request resubmission or additional information. The City is the sole judge of suitability of the proposals. The City's decision is final.

Contract Terms

Authorization to do Business in Virginia. Contractor is authorized to do business in Virginia as a domestic or foreign business entity under Title 13.1 or Title 50 of the Virginia Code. Contractor will not allow its existence to lapse or its certificate of authority or registration to do business in Virginia to be revoked or cancelled during the term of this contract.

Relation to City. Contractor is an independent contractor of the City. This contract does not create an employment relationship between the City and Contractor or any of its employees.

Cooperative Procurement. Public bodies other than the City of Fredericksburg may purchase goods and services from Contractor under the terms of this contract, under Virginia Code § 2.2-4304.

Modifications. This contract consists of the Request for Proposal issued by the City (including these terms), the winning Proposal, the Notice of Award issued by the City, and any written change orders approved by the City. Modifications to this contract (including substitution of any key personnel) can only be authorized by approved written change order. Contractor must submit requests for change orders to the City. The City will respond to requests promptly, in writing.

Contract Period. The City may elect to purchase additional ambulances from this contract for five years from the date of award.

Freedom of Information Act. All records pertaining to this contract are open to inspection by the public under the Virginia Freedom of Information Act (Virginia Code § 2.2-3700 *et. seq*) unless specifically exempted under the Act (including records properly exempted under Code of Virginia § 2.2-4342).

Audit. Contractor will retain all records related to this contract for 5 years after final payment or until audited by the City, whichever comes first. The City may inspect these records upon reasonable notice to Contractor.

Ethics in Public Contracting. Contractor certifies that its offer is made without collusion or fraud and that it has not offered or received any kickbacks or inducements from any other offeror, supplier, manufacturer, or subcontractor and that it has not conferred on any public employee having official responsibility for this purchase any payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised unless consideration of substantially equal or greater value was exchanged.

Non-Discrimination. Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor.

Contractor will post in conspicuous places, available to employees and applicants for employment, notices stating the terms of this section.

Contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that the contractor is an equal opportunity employer.

Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation are sufficient for the purposes of this section.

Contractor will include the terms of this section in every subcontract or purchase order of over $10,000, so that the terms will be binding upon each subcontractor and vendor.

Immigration. Contractor does not, and will not during the performance of this contract, knowingly employ an unauthorized alien as defined in federal Immigration Reform and Control Act of 1986.

Drug-Free Workplace. Contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in Contractor's workplace and specifying the actions that will be taken against employees for violating that prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor maintains a drug-free workplace; and (iv) include the terms of this section in every subcontract or purchase order of over $10,000, so that the terms will be binding upon each subcontractor and vendor.

Material Safety Data Sheets. The City of Fredericksburg will not receive any materials, products, or chemicals, which may be hazardous to an employee's health unless accompanied by a Material Data Sheet when received.

Safety. Contractors and its subcontractors shall comply with all Occupational Safety and Health Administration (OSHA), Virginia and City safety and occupational health standards. The City is not responsible for the safety of Contractor's employees or employees or its subcontractors.

Taxes. The City is exempt from state sales tax and federal excise tax. The City will provide tax exemption certificates to the Contractor upon request.

Condition of Items. All items shall be new, in first class condition, including containers suitable for shipment and storage.

Payments. Contractor must provide its federal employer identification number to the City before requesting payment. Contractor will submit detailed invoices (including progress reports), with appropriate documentation, to the City, at:

City of Fredericksburg
Fredericksburg Fire Department
601 Princess Anne Street
Fredericksburg VA 22401

Invoices will be based on completion of tasks or deliverables. The City will pay invoices within 30 days. Any invoice not paid within 30 days will accrue 1% interest per month.

Non-appropriation. All funds for payments after June 30 of the current fiscal year are subject to appropriation by the City Council. If Council does not appropriate the required funds, the City will terminate this contract on June 30 of the then-current fiscal year.

Subcontractors. Within 7 days after receipt of payment by the City for work performed by a subcontractor, Contractor shall a) pay the subcontractor for the proportionate share of the total payment received from the City attributable to the subcontractor's work, or b) notify the City and the subcontractor, in writing, of Contractor's intention to withhold payment and the reason for withholding the payment.

Contractor will pay interest of 1% per month to subcontractors on all amounts owed to the subcontractors which has not been paid or withheld under the terms of the preceding paragraph.

Contractor must require individual subcontractors to provide their social security numbers, and proprietorship, partnership, and corporate subcontractors to provide their federal employee identification numbers. Contractor will provide this information to the City upon request.

Contractor must require subcontractors to include the terms of this section in all contracts with other subcontractors.

Indemnification. Contractor will save, defend, hold harmless, and indemnify the City, and all of its elected and appointed officials, officers, employees, agents, departments, agencies, boards, and commissions from and against any and all claims, losses, damages, injuries, fines, penalties, costs (including court costs and attorney's fees), charges, liability, or exposure, however caused, resulting from, arising out of, or in any way connected with Contractor's negligent acts, errors or omissions, recklessness or intentionally wrongful conduct of the Contractor in performance or nonperformance of its work under the contract. This indemnification survives the termination of the contract.

Insurance. Contractor and any subcontractors will maintain the following insurance coverage during the entire term of the contract. Contractor will provide copies of its Certificates of Insurance to the City.

a. Workers' Compensation—as required by law.

b. Employer's Liability--$100,000.

c. Commercial General Liability--$1,000,000 per occurrence. The City must be named as an additional insured on this policy.

Assignment. Contractor will not assign or otherwise transfer any of its rights, obligations, or interests in this contract without the written permission of the City.

Choice of Law, Venue. This contract is governed by Virginia law. The Circuit Court of Fredericksburg, Virginia is the exclusive venue for any litigation regarding this contract.

Claims. Contractor must notify the City in writing of its intention to file a claim at the time of the occurrence or beginning of the work upon which the claim is based. All claims must be submitted less than 60 days after the final contract payment.

Dispute Resolution. The parties shall first endeavor to resolve any disputes, claims, or other matters in question between them through direct negotiations, and if direct negotiations fail, by non-binding mediation, with the exclusive venue of the mediation being the City of Fredericksburg. Should the

dispute remain unresolved either (i) following negotiation and mediation, or (ii) more than 90 days after a party has requested mediation, either party may institute a lawsuit or chancery action, as appropriate, in Fredericksburg Circuit Court, and may pursue all available appeals in Virginia state courts, to the extent they have jurisdiction. Any agreement reached in mediation must be reduced to writing and executed by the parties; upon execution, the agreement will be enforceable as a settlement agreement.

Default. The City is in default 1) if it fails to pay any amount due to Contractor; or 2) upon any other material failure to comply with the terms of the contract. Contractor is in default upon any material failure to comply with the terms of the contract.

A party alleging that the other party is in default must provide the allegedly defaulting party with written notice specifying the alleged default and allow 30 days for the default to be cured.

Delay(s). Contractor shall give immediate written notice to the Fire Administration Office of any delays it foresees. The City may extend the initial delivery date at its sole discretion. The Contractor must keep the City advised at all times of the status of the order.

Remedies. If the City does not cure a default after receiving notice, Contractor may a) terminate this contract, and b) exercise all remedies available at law. If Contractor does not cure a default after receiving notice, the City may a) terminate the contract, b) exercise all remedies available at law, and c) collect liquidated damages.

Liquidated Damages. The City will incur actual damages if Contractor fails to perform its responsibilities under the contract as scheduled. It would be impractical to determine the actual amount of these damages. The parties agree that $100 per day is the best estimate of the damage that would be incurred by delayed performance under the contract. This is the City's exclusive monetary remedy for delay by the Contractor.

Termination. The City may terminate this contract for any reason upon 30 day notice to the Contractor. The City will promptly pay all amounts already earned by Contractor and reasonable expenses incurred in reliance upon the contract.

The parties can agree to terminate this contract at any time.

Notices. Any notices pertaining to this contract must be sent by first-class mail to:

To the City:

City of Fredericksburg
Fredericksburg Fire Department
601 Princess Anne Street
Fredericksburg VA 22401

To the Contractor:
The address listed on Contractor's Proposal or Bid. Contractor may change its address for notices by notifying the City in writing of the change.

Severability. If a court declares any part of this contract to be invalid, void, or unenforceable, the rest of the contract remains in effect.

Strict Performance. The failure of a party to insist upon the other party's strict performance of the terms of the contract is not a waiver of the right to insist upon strict performance of those terms at a later time.

Exhibit A

Ambulance Specifications
RFP # 2015-AMB-01

SPECIFICATIONS FOR A NEW EMERGENCY MEDICAL VEHICLE

Bidder Instructions:

The following specification describes a new ambulance that is expected to be acquired by the City of Fredericksburg Fire Department. The specification describes the needs of this purchaser as far as chassis configuration and module body design. A state of the art vehicle is required. However, manufacturers that utilize prototype equipment or manufacturing processes will not be considered. The builder's manufacturing history shall be supported by documentation where applicable, and by the reference section within this specification. The benchmark for the initial configuration of this ambulance shall be the current KKK Federal Specification for Ambulances or NFPA 1917 Standard for Automotive Ambulances. However, most requirements in this specification exceed the federal specifications because of the specific needs of this purchaser.

Please note that the following specifications represent minimum general terms or requirements. While it is not the intent of this purchaser to preclude any qualified bidder from submitting a proposal, it must be clear that the Fredericksburg Fire Department will review all responses to the bid specification and assign weighted values to those bidders who meet or most closely meet this specification prior to reviewing the pricing of the bids.

Finally, manufacturers or distributors for manufacturers submitting bids shall include the following information with their proposal:

BRAND NAMES:

Brand names and/or the description used with this bid proposal are to acquaint the bidder with the type of commodity desired and will be used as a standard by which alternate or competitive materials offered will be judged. Competitive items must be equal to the standards described and be of the same reputation for quality and workmanship. Variations between the materials described and materials offered are to be fully explained by the bidder. In the absence of any changes by the bidder, it will be presumed and required that materials, as described in these specifications, be delivered.

MINIMUM REQUIRED STANDARDS:

The highest degree of quality, both in the materials and in the building processes, is required for the emergency medical vehicle being proposed. At a minimum the manufacturer being proposed must meet all current mandated and voluntary ambulance design standards in effect at the date of the proposal submission. All current Federal Motor Vehicle Safety Standards (FMVSS) must be met, as well as all current Federal Ambulance Design specifications as well as NFPA Standards.

The bidder shall state the date of certification for the current KKK-A-1822: _____

SINGLE SOURCE MANUFACTURER:

To simplify warranty coverage and to assure a consistent level of quality throughout the vehicle, a manufacturer is desired that manufactures the Major components for the ambulance (excluding the chassis). Major components are defined as the module body, the interior cabinets, and the converter-added electrical wiring system. This purchaser understands that manufacturers may purchase some elements, such as switches, boards, etc. with which to manufacture a system.

Further, this specification prefers the vehicle manufacturer to own the design of, as well as the rights to the onboard converter-added electrical system and higher consideration will be to the manufacturers who have this style system. Generic aftermarket systems that are manufactured by an outside company and installed by the vehicle converter are not desired but will be evaluated during the bid review process.

Bidder states that the represented vehicle builder manufactures all of the major components as defined above:
Yes_____No____ Initial: _____

Bidder states that the represented vehicle builder owns the design of the converter-added electrical system, as well as all rights to that system and any software that may be required:
Yes____ No____ Initial: _____

Component manufacturer (by company name):

Modular Body:_____

Interior Cabinets: _____

Electrical Wiring System: _____

WARRANTY:

The proposal shall include all warranties that are required in the following detailed specification. Lifetime warranties will not be accepted because of their unclear nature of duration. All warranties must have specific time durations and shall define warranties on specific components. The minimum acceptable warranty periods are noted below. In the blank lines the bidder shall note the terms of the warranties that apply to the manufacturer being proposed.

MODULAR BODY STRUCTURAL WARRANTY: 15 years/Unlimited Miles
Proposed warranty term:_____years/_____Miles

Note: The structural warranty, as noted in the structural section of this specification, will include the module doors, continued module body door alignment, and all interior cabinet construction. The remounted body shall be completed with the greater of the existing body structural warranty from the OEM still in effect or an extension of (5) years from the date of completion, whichever is greater. The body structural warranty will be effective under the following conditions: (1) the re-chassis is performed by the original manufacturer, (2) the structural warranty has not expired at the time of the re-chassis, and (3) this purchaser approves any structural repairs at the time of the re-chassis. These terms and conditions must be explicitly stated in the manufacturer's warranty certificate.

Does the structural warranty proposed comply with the above-stated terms and conditions? Yes____ No____

ELECTRICAL WARRANTY: 5 years/100,000 Miles
Proposed warranty term: _____year(s), _____ Miles

CONVERSION WARRANTY: 2 Years/24,000 Miles
Proposed warranty term: _____year(s), _____ Miles

PAINT WARRANTY: 7 Years/84,000 Miles
Proposed warranty term: _____year(s), _____ Miles
Corrosion due to electrolysis is warranted as follows:
0 – 4 years = 100% / 5 years = 50% / 6 years = 35% / 7 years = 20%
Proposed warranty term: _____ year(s), _____ Miles
(No paint vendor warranties will be accepted)

For verification of the completed warranty terms stated above the bidder must include printed manufacturer's warranty certificates that meet or exceed the minimum required periods stated above.

Are the manufacturers warranties included? Yes____No___

Warranties shall be transferable for their duration. All warranties shall be from the manufacturer as opposed to a distributor or service center. This is necessary for the protection of the purchaser, and to guarantee a certain known level of service and warranty. If, however, the bidder feels that it is necessary to modify the manufacturer's warranties, then the bidder shall state why this modification is necessary. In addition, the bidder shall provide a full descriptive warranty certificate describing the warranty modification and the fact that it takes specific precedence over the warranty offered by the manufacturer. If no such certificate is provided, then the modified warranty shall be considered invalid and the manufacturer's warranty shall remain in force.

Does the bidder conform to the above-written section? Yes_____No___

In order to simplify the evaluation process the following questions must be answered and this section must be initialed by the bidder.

Are the warranties transferable? Yes_____No___

Has the bidder modified the manufacturer's warranties? Yes_____ No_____
If yes explain. _____

_____

_____

_____
If yes was chosen above, has the bidder included modified written warranties?
Yes_____ No_____
If no explain. _____

_____
SERVICE AVAILABILITY:

Service will be a factor in the award of this proposal. Convenience and experience will be determining factors in defining acceptable service. A service facility within a radius as described below will be required. Personnel performing the service shall be trained by the manufacturer with emphasis in the area of electrical service. In order to evaluate the proposed service facility the following information shall be provided on the appropriate lines.

Radius from purchaser: Not more than 50 miles from Fredericksburg Fire Department Headquarters 601 Princess Anne Street Fredericksburg, VA.

Facility name: _____
Address: _____
City: _____ State: _____
Contact:_____
Phone #: 1-(____)-____-_____
Training Description: _____

_____

_____

ENGINEERING SUPPORT:

Due to the complexity of the design of the vehicle, proposals will be accepted only from manufacturers that utilize well-defined engineering techniques. Computer Aided Design (CAD) drawings of both the interior of the patient area and the overall layout of the module body will be mandatory. At a minimum these drawings shall include all exterior elevations, all interior views (4), and a plan view of the roof/ceiling. All options and elements required within these specifications shall be depicted on the prints. The purpose of this requirement is to assure this purchaser that vehicle proposals indeed meet the stated requirements as set forth in these specifications. Generic CAD drawings are not acceptable. The drawings, as submitted, shall accurately depict the exact vehicle that is being proposed. Bidders not including the required drawings will be considered non-responsive and will, therefore, be rejected.

Are the required drawings included with this bid? Yes____ No____

SAFETY CERTIFICATION:

The verification of construction techniques used throughout the building process must be furnished by the manufacturer/bidder. The installation methods and construction techniques associated with seat belt retention, cabinet construction and installation, oxygen cylinder retention and module to chassis mounting systems. Our desire is that these components are tested to a much higher level than the industry standard KKK static testing minimums. During the evaluation of the bid consideration weight will be given to the testing methods performed by the manufacturer.

Please respond in your bid package what, if any, testing has been performed beyond the standard KKK test and supply current documentation for the testing noted.

INTERIOR OCCUPANT PROTECTION:

Rear occupant safety for the provider is of utmost importance. For the safety of the EMS providers working in the patient area, the vehicle shall be equipped with an interior occupant protection system incorporating an emergency inflatable airbag system at both the attendant and the CPR seat locations.

Each seating position shall include seat belts as follows:

Attendant seat: Three point seat belt. CPR seat: Three point seat belt with removable third point latch. Ends of bench: Three point seat belt with removable third point latch. Center of bench: Two point seat belt.

Each seat belt shall have been tested to verify its latching capabilities and performance as well as the extent to which it allows movement by the "spooling effect" within the retractor. Those tests shall verify that this spooling effect allows less than three inches (3") of belt travel before latching.

There shall be a barrier constructed at the head of the squad bench that will provide a 16" high restraint which, when working in conjunction with the above three point belt system will assist in securing the occupant in the event of a rollover collision.

REFERENCES:

The proven durability and reliability of this product and the dealerships ability to sell and service this geographic region is of the utmost concern. Each bidder submitting a proposal must furnish references consisting of in-service units with municipal accounts or similar chassis make and conversion processes being proposed within a 150 mile radius built and delivered within the last five years.

All references shall include owner, address, contact name and phone number, and the quantity and models owned. A minimum of twenty (10) references shall be provided:

1. Owner: _____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model:_____Year: _____

2. Owner: _____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model:_____Year: _____

3. Owner: _____

Address: _____

Contact:_____

Phone #: 1-(____)-____-_____

Model:_____Year:_____

4. Owner: _____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model:_____Year:_____

5. Owner: _____

Address: _____

Phone #: 1-(____)-____-_____

Model: _____Year: _____

6. Owner: _____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model: _____Year: _____

7. Owner: _____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model:_____Year: _____

8. Owner: _____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model:_____Year: _____

9. Owner: _____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model: _____Year: _____

10. Owner:_____

Address: _____

Contact: _____

Phone #: 1-(____)-____-_____

Model: _____Year: _____

LIABILITY:

The bidder shall defend, indemnify, and save harmless the purchaser and its officials from all claims, demands, payments, suits, actions, recoveries, and judgments of every description, whether or not well founded in law, brought or recovered against it, by reason of any act or omission of said bidder, his agents or employees, in the execution of the contract or in consequence of insufficient protection or for the use of any patented invention by said bidder, and a sum sufficient to cover aforesaid claims may be retained by the purchaser from money due or to become due to the bidder under this contract, until such claims have been discharged or satisfactorily secured.

Each bidder must furnish a Certificate of Insurance showing aggregate total of insurance which shall not be less than twenty-five million dollars ($25,000,000).

Certificate of Insurance included with proposal? Yes_____ No____

In addition, the bidder is to assume any risk of loss to the ambulance until the ambulance is delivered to this purchaser.

Does the bidder understand this requirement? Yes_____No____

INSPECTION TRIP:

An inspection trip shall be provided by the bidder. The inspection trip shall take place after completion of unit at the manufacturing facility and shall serve as a final inspection of completed vehicle. The trip shall include transportation, room, and board for one day/night stay. A trip requiring travel of more than 350 miles shall be via commercial air carrier. Under no circumstances shall air travel be via private or corporate aircraft.

Number of personnel: 2

Inspection trip included in bid: Yes_____No____

DELIVERY PROCESS:

The vehicle shall be delivered over the road to the purchaser. Delivery shall be stated in number of calendar days after award of contract and receipt of chassis. The purchaser has the right to reject the vehicle if it does not conform to these specifications to the satisfaction of the purchaser.

Does the bidder understand this requirement? Yes_____No____

BID COMPLETION REQUIREMENTS:

1. All proposals shall be submitted to:

Fredericksburg Fire Department
601 Caroline Street, Suite 700
Fredericksburg, Va. 22401
Attn: Battalion Chief Charles Sterne

Proposals must be submitted by: Date as listed on Cover Documents

2. All proposals shall be submitted in a sealed envelope or box with the following information marked on the outside of the envelope:

Ambulance Bid # 2015-AMB-01

3. All proposals shall be submitted in a hard-bound binder. In order to facilitate evaluation, the binder shall be divided by header into the following minimum sections:

A. Proposal: Bidders proposal showing product bid, model year, price, and delivery date.
B. Specification: Purchasers advertised specifications completed as required.
C. Design: CAD generated drawings of both interior and exterior of the product being proposed.
D. Warranty: Complete written certificates of Modular, Electrical, Paint, and Conversion warranties.

Bidder's proposal meets all of the requirements listed above.
Yes____ No____ Initials: _____

INFORMATION TO BE SUBMITTED WITH PROPOSAL:

Response to all sections of this RFP is required. If a bidder cannot supply the requested items in each section they may provide an alternative option by taking exception to the item and providing written documentation of the alternative option along with technical data and independent third party testing when requested. If the bidder cannot meet specific sections of the RFP this does not eliminate them from consideration for the award. However, consideration to the bidders that meet or most closely meet the intent of the RFP and finally consider pricing in the evaluation process. The information requested within this bid must be furnished in full. This purchaser reserves the right to require samples of any deviating material to be provided for evaluation.

Does the bidder comply with these requirements?
Yes____ No____ Initial: _____

EXCEPTIONS TO SPECIFICATIONS:

Exceptions to these specifications shall be noted below. All exceptions taken shall be recorded per the guidelines defined above. Each exception shall be noted by page number and item header. If additional space is required for exceptions, then the bidder shall use additional paper as necessary, however the same format shall be used.

Page #:_____ Header:_____
Exception:_____
_____
_____

Page #:_____ Header:_____
Exception:_____
_____
_____

Page #:_____ Header:_____
Exception:_____
_____
_____

Page #:_____ Header:_____
Exception:_____
_____
_____

CONSTRUCTION PHOTOGRAPHS:

The bidder shall include the following photographs with the completed proposal. Proposals not including these photographs will be considered incomplete and will, therefore, be evaluated accordingly. These prints shall be submitted for evaluation purposes. This purchaser shall compare the photos of the different bidders to establish an understanding of the construction methods used. Photographs shall be in color and shall be large enough and clear enough to supply ample detail. The photographs shall be provided in the exact numerical order listed below. The photographs to be submitted shall include:

1. Interior upper corner showing gusset and extrusion detail.
2. Interior side wall including horizontal frame member.
3. Roof section showing structural supports.
4. Detail of vertical side wall substructure to include gussets.
5. Floor superstructure prior to installation of the aluminum sub floor.
6. Interior of rear door less trim
7. Interior of rear door detailing door latch linkage
8. Electrical distribution panel complete and wired.
9. Backside of front console switch panel complete and wired.
10. Interior cabinet modules prior to installation.

CHASSIS:

The chassis required for this project is specified in detail below. Failure of the bidder to provide the chassis exactly as specified will be grounds for rejection of the bidder's proposal as being non-responsive. Exceptions will be made only if the bidder can prove that a required feature is unavailable from the chassis O.E.M.

CHASSIS, 2016 GMC G3500 CUTAWAY:

The vehicle converter shall supply a 2016 159" wheelbase GMC G4500 cutaway chassis for the ambulance conversion. This chassis shall have a 100" cab-to-axle dimension. The chassis shall be equipped with GM's YF2 option package.

ENGINE AND RELATED EQUIPMENT:

-Duramax 6600 diesel with 250 HP @ 3,200 RPM, and 460 ft. lbs. torque @ 1,600 RPM. -57 gallon fuel tank mounted aft of the rear axle.-Engine block heater.

TRANSMISSION:

-6-speed electronic with overdrive.
-Transmission oil cooler.

REAR AXLE:

-Ratio: 3.73:1
-HD locking differential

OVERALL WEIGHT RATINGS:

-GVW: 14,200 lbs.
-Front Axle: 4,600 lbs.
-Rear Axle: 9,600 lbs.

TIRES AND WHEELS:

Quantity:	Six (6) tires
Front Tire Style:	All season radials
Tire Size:	225/75R16E
Rear Tire Style:	All season radials

Tire Size: 225/75R16E
Wheels: Steel with polished stainless inserts

BRAKES:

Brake system: Power hydraulic disk with ABS.
Parking Brake: Foot operated pedal, manual release

INTERIOR APPOINTMENT STANDARDS:

- -Interior Upgrade Package
- -Power steering
- -Tilt steering with factory speed control
- -Courtesy lights
- -Dual padded sun visors
- -High Series door trim panels
- -A pillar grab handles
- -Cloth headliner
- -Rear view mirror
- -Power door locks
- -Power windows
- -12V power point
- -Sound reduction package
- -Light/Convenience group
- -Heat/Air conditioning
- -Dual O.E.M. cloth-covered captain's chairs
- -Carpeting on cab floor
- -Second generation driver and passenger air bags
- -An electronic AM/FM stereo/CD player with two (2) speakers installed in cab
- -Factory gauges for oil pressure, fuel capacity, and water temperature. The converter-added digital display shall provide both ammeter and voltmeter.

ADDITIONAL APPOINTMENT STANDARDS:

- -Tinted glass
- -Dual electric horns
- -Interval wipers
- -Mirrors, wide stance Velvac sail panel mounted with convex
- -ICC marker lights (Installed by vehicle converter)
- -Halogen headlights with daytime running lights
- -Chrome-plated front bumper
- -Auxiliary idle control
- -Auxiliary heat/AC connections
- -Front license plate bracket

BATTERIES:

The vehicle shall be equipped with two (2) 770 cca batteries. The total cca rating for this vehicle shall be 1,540 cca.

ALTERNATORS:

Dual Delco 145 amp alternators shall be installed on the chassis.

WARRANTY:

The chassis manufacturer's standard vehicle warranty policies shall apply.

CHASSIS INTERIOR COLOR:

The chassis interior shall be O.E.M. gray.

CHASSIS HARDWARE AND ACCESSORIES:

The items to follow represent chassis modifications, hardware, and accessories that are required. Failure to provide these features will be cause for rejection of the bidder's proposal as being non-responsive.

DIESEL EXHAUST FLUID (DEF):

The fill for the DEF tank will be located in the driver's side of the body rearward of the rear wheels. A label stating "DIESEL EXHAUST FLUID (DEF)" will be installed next to the fill neck.

STAINLESS STEEL WHEEL COVERS

Stainless steel DOT approved wheel inserts shall be installed on all four outside wheels of the chassis.

MUD FLAPS, REAR:

The vehicle converter shall install individual rubber mud flaps behind each rear wheel. The mud flaps may incorporate the converter's corporate logo provided that the logo is incorporated into the rubber material and not a separate piece.

RUNNING BOARDS: ALD

Diamond plate running boards shall be installed on each side of the cab at the cab entry points. The running boards shall be constructed with .125" thick 3003-H14 alloy polished aluminum diamond tread plate. The running boards shall include splash shields at the forward end to protect the vehicle from spray and road debris.

TOW HOOKS, REAR:

Two tow hooks, painted black, shall be bolted to the rear bumper frame.

REAR STEP/BUMPER ASSEMBLY:

The rear of the vehicle shall be equipped with a step/bumper assembly to be fabricated from .125" polished aluminum diamond Treadplate. The assembly shall be spaced out from the rear kick plate a minimum of 1.5". The center section of the assembly shall pivot up and over center on two (2) .5" bolts to stay in the 'up' position. This section shall be a minimum of 9.5" deep and shall be constructed with grip-strut on the stepping surface to provide for better footing. The ends of the assembly shall be fixed diamond tread plate. The distance between the top of the step and the ground shall not be less than 16". The fold-up portion of the step shall be firmly held down with two (2) pin and socket holders to prevent rattling while the vehicle is in motion.

SPECIAL MIRRORS:

The ambulance converter shall supply and install special aftermarket mirrors as noted below. Visible holes and mounts from O.E.M. mirrors will not be acceptable. Any and all thread inserts must be removed and holes filled. Door panels must be refinished if O.E.M. mounts leave visible marks on the panel surface.

Manufacturer: VELVAC
Model: 2020 XG

BILSTEIN SHOCK PACKAGE:

Bilstein shocks shall be installed on the vehicle both front and rear in place of the O.E.M. shock absorbers.

BATTERIES:

The battery system, as noted in the "Chassis" section of this specification, shall include two batteries on a roll-out tray in a dedicated compartment on the curbside lower forward portion of the body.

REVERSE ALARM:

An audible alarm shall be installed to activate when the vehicle is placed into reverse gear. There shall be, installed on the front console and wired through the vehicle electrical system, a momentary cutoff switch to disable the alarm. This switch shall automatically reset each time the vehicle is placed into reverse gear.

CAMERA SYSTEM:

A camera system shall be installed as noted below and wired for use with the front electrical system control screen. The front electrical control panel shall incorporate the camera display system to reduce the amount of equipment required to be installed in the cab to accomplish the provider operating parameters.

Quantity: 2
Locate: Over rear doors interior and exterior.

AM/FM/CD PLAYER:

The OEM AM/FM/CD player shall be installed in the cab and wired to the OEM cab speakers. This unit shall also be capable of being wired to patient area speakers should they be required within this specification.

SPECIAL INSTRUCTION, CHASSIS HARDWARE:

Manufacturer shall have a dealership installed upgraded front suspension system to include Heavy duty coils and Timbren buffer kit.

MINIMUM BODY DIMENSIONS:

The completed vehicle shall have the following minimum dimensions:

Exterior
- -Height: 89"
- -Width: 96.25"
- -Length: 169"

Interior
- -Height: 72"
- -Aisle: 50"
- -Length: 165"

OVERALL DIMENSIONS (Including Chassis, Module and Step):
- -Height: 112" (to top of vent)
- -Width: 100"
- -Length: 268.5"

MODULAR BODY STRUCTURAL DESIGN REQUIREMENTS:

The module body shall be designed and fabricated with the following key elements in mind:

1. The greatest possible load carrying capacity is desired.
2. The safety of all vehicle occupants is of paramount concern.

3. The body design, including construction materials and fabrication techniques shall be proven to be durable.
4. The body shall be easily retrofitted to a new chassis should that need ever arise.

With these concerns in mind the following requirements have been established for the purposes of this specification:

The vehicle converter shall design and construct its own module bodies, and maintain an engineering staff at its manufacturing facility to handle any custom body changes that may be necessitated by this design. It is the intent of this purchaser to receive a finished product of the highest standards of quality available. Vehicle manufacturers who design and build their own bodies and who have the expertise of an engineering staff will possess a greater capacity as far as handling a custom project of this type than manufacturers who purchase their bodies from an outside vendor. Accountability and quality of the design and construction of the body are enhanced when the vehicle converter manufactures the body.

GENERAL BODY DESCRIPTION:

The construction process described within this specification will ensure that the body shall remain structurally intact. However, to achieve this level of quality and durability, the module body, including all doors, must be constructed correctly initially. This specification requires that the module body, including all doors, be built within a tolerance of one five-thousandths of one inch. To achieve this the vehicle manufacturer must use, as standard practice, precision computerized equipment such as found in Strippet machines and microprocessor controlled milling machines and chop saws. Use of precision equipment will ensure that all door openings, door handles and latches, body windows, and warning light assembly installation locations are of the correct size and square to the body. Cutting done by hand, such as with a jigsaw, is not desired unless it involves the chassis, or unless a warning light assembly must be located in such a way that it depends on the layout of the finished vehicle. (E.g. when a light must be centered within a paint stripe since the exact stripe location will not be determined until the module is built and mounted.) In addition, utilization of computerized equipment will simplify the production of replacement body panels in the event of an accident since the computer can duplicate a given part exactly. This includes documentation of all body light locations.

PAYLOAD REQUIREMENTS:

The vehicle payload shall meet or exceed that called for in the current KKK-A-1822 specification or NFPA 1917 standard. The vehicle manufacturer shall, upon notice by this purchaser, provide a written statement from an independent engineer that the model being offered has met this set of criteria. Before delivery of the completed unit the manufacturer shall weigh the vehicle. A written statement of those weights shall be affixed to the inside of the street side front #1 compartment door. This purchaser reserves the right to have the finished vehicle weighed independently upon delivery. If it is found that the written statement of weight provided by the manufacturer is inaccurate beyond what may be reasonably explained as a slight difference in the calibration of the scales, then the vehicle will be rejected. It should be noted that this purchaser, while interested in attaining the greatest possible payload, is unwilling to compromise on the structural requirements of a strong, durable, and safe body. All bidders must understand these factors supersede concern over payload, and that the lightest body (greatest payload) will not necessarily be deemed sufficient to meet the stringent quality and safety requirements set forth herein.

MODULE BODY CONSTRUCTION AND WARRANTY:

The module body shall be constructed per the following detailed specifications. Generally speaking the body shall be of all-aluminum construction. Aluminum is shown to reduce weight over several other materials. It also possesses anti-corrosion properties that are essential for a vehicle of this type. The exact aluminum material

requirements are explained in further detail below. The choice of materials and the design shall allow the manufacturer to warrant the materials and workmanship of the module body for a period of thirty (15) years as set forth in the warranty section of this specification. The manufacturer's structural warranty shall specifically cover:

-The continued and correct alignment of both compartment and access doors.
-Seam or joint separation in door construction.
-Aluminum interior cabinetry.

The warranty shall be fully transferable to a new owner should the vehicle ever be sold. In addition, should the manufacturer bidding this proposal re-chassis the vehicle within the period of the initial structural warranty, then an additional 5 years shall be added to the remaining amount of warranty coverage left at the time of re-chassis. This warranty shall be revalidated in five-year increments each time the body is mounted to a new chassis provided that the warranty has not expired, that this purchaser authorizes any necessary repairs, and provided that the original manufacturer performs the re-chassis.

CORNER POST SUPPORTS:

The body structure must be able to support the loaded weight of the vehicle in the unlikely event of a rollover. A structure is required that will enhance the safety of both patients and attendants in the event of an accidental collision. The foundation of a solidly built module body is the utilization of strong corner posts in both the sidewalls and the roof. A one-piece 90-degree radius post is required. The posts shall include a full length W shaped extrusion that forms a fully encased web inside the post for strength. This reinforcing member shall angle inward just before it joins the radius to form a small slot where the edges of the aluminum skin will be inserted prior to the final welding.

CORNER POST STRENGTH:

The corner post extrusions shall possess a minimum ultimate tensile strength of 27,000 psi (6063-T5).

ROOF EXTRUSIONS:

The horizontal roof extrusions shall conform to the same construction description as the vertical wall extrusions. They will, however, include an extruded drip rail as a part of the one-piece posts. Because the drip rail is a part of the post itself there will be no seams between the rail and the body above the rail. In addition there shall be drip rails installed above all body doors that are not full height. These rails shall attach via a durable adhesive.

WALL AND ROOF SKIN SUPPORTS:

The exterior wall and roof skins shall be supported on the inside by 2" square tubing with .125" wall. These structural supports shall be strategically located at the load bearing points of the module body. The roof structural support beams shall be spaced on minimum 12" centers for adequate load support. Wall tubing of .125" thickness or less will not be acceptable.

HORIZONTAL WALL SUPPORT:

In addition to the vertical wall supports there shall be a horizontal beam, located in the beltline area, to provide additional protection in the event of a side body collision.

GUSSET ENHANCEMENT:

Gusset supports, made from 2" square tubing, shall be installed throughout the vehicle for added strength. Each gusset shall be a minimum of 5" long at its longest point. A minimum of twenty-four (24) of these gussets shall be welded into the vehicle support

structure. Areas of installation shall include but not be limited to: all door openings, all body corners, and above all wheel wells. Designs that utilize no gussets, or gussets of lesser material size or strength, are not acceptable.

FLOOR CONSTRUCTION:

Floors that are uneven or are incapable of adequately supporting the load being carried on the vehicle are unacceptable. For that reason thin floor panels and/or a lack of floor supports are not desirable. To prevent buckling, sagging, oil canning or any other structural breakdown of the flooring system a detailed description of the required construction process is provided.

The body subfloor shall be constructed of .090" 5052-H34 aluminum. The floor, from the front to the rear and from curbside to street side shall be supported by a minimum 2" x 3" tubular beams with a .25" wall. The floor just behind the axle shall be supported by a minimum 1.5" x 3" tubular beam with a .25" wall. All beams shall be strategically located at the load bearing points of the floor and welded into place. The interior of this vehicle shall contain no wood or wood products of any kind. The subfloor, above the aluminum sheet shall be specially constructed to provide both acoustic and thermal protection for the patient interior. It shall consist of the .090" aluminum with tubular understructure as noted above. The underside of this area is to be sprayed with a sound reduction coating. In addition, a .125" damping pad, a .125" sound barrier sheet, and a .625" aluminum composite floor panel shall be installed prior to installation of the vinyl floor covering. The purchaser reserves the right to inspect the process proposed by the bidder and to make determinations regarding the acceptability of that process. The resultant subfloor shall have no organic, wood, or wood products and shall be guaranteed against rotting or water absorption for a minimum of fifteen years. It shall not support or attract mold or fungus.

MODULAR DOOR DESIGN:

Door panel separation, dirt accumulation at seams, paint imperfections, misalignment, and even malfunctions whereupon the door cannot be operated have been observed in many styles of door construction. These problems, along with the expected rugged use of the vehicle doors, shall be eliminated with a good overall design and construction process. With these thoughts in mind the modular doors shall be constructed as follows:

OUTER DOOR SKIN:

The door facing and edges shall be formed from a single sheet of aluminum. The aluminum used for the doors shall not be less than 5052-H34 alloy with an ultimate tensile strength of 38,000 psi. The material shall be .125" thick. All module doors shall be flush fit to the body side. The door panels must be welded at the corners.

INNER DOOR REINFORCEMENT:

Each door shall include an internal extrusion for added reinforcement. The extrusions shall extend around the entire perimeter of the door. Additional reinforcement shall be installed through the center of the door and around each window where applicable. In addition to the extrusions reinforcing each outer door pan, the extrusions themselves shall be reinforced through a dual joining method. First, each mitered corner, where the frame corners join, shall be fitted with a one-way solid aluminum insertable key. This key shall prevent the corner from pulling apart, and shall act as a solid aluminum internal gusset. Secondly, each corner where the frame joins shall be welded to further prevent any separation. The end result will be a rigid door that will not bend or flex and that will eliminate the other commonly seen structural defects described above.

INNER DOOR PAN:

An inner door pan shall fit flush with the inner edges of the door. Inner door pans that do not fit flush will have sharp or ragged edges exposed and will not be acceptable.

The panels must be attached to the door structure with machine screws and "T" style Nutserts to prevent spinning stripping. Sheet metal screws or rivets will not be accepted. Lastly, a closed cell cross-linked polyolefin foam tape shall be used beneath the inner door panels to isolate the panels from the door frames. This process will prevent door rattling.

DOOR SEAL:

All module doors shall incorporate an extruded rubber seal located around the perimeter of the door. The seal shall insert into a groove in the inner door extrusion. Seals that are installed around compartment openings will be easily torn by the movement of equipment across them. In addition, glue will not be permitted except in the case of a double door compartment. The requested design does not include a groove on the underlying door edge of a double door compartment. That edge alone will require an adhesive. Glue for all seals is not desirable because of increased replacement time and insufficient durability.

DOOR JAMB:

All doorjambs must be separate from the body skin and must be welded to the 2" x 2" tubular body frame members so as to ensure continued door alignment and proper catching. The compartment frame shall be designed in such a manner as to provide extra protection around the compartment openings. The reinforcement tube shall be at least 1" wide. For added strength, the frame shall be at least .188" thick where screws are attached.

Prior to door installation the doors shall be true fit to the doorjambs. The fitting, prior to installation, shall provide added assurance that the door aligns properly with the doorjamb.

CAB SET-BACK:

This purchaser requires that full seat travel be attained in the cab. This purchaser also requires that the cab seat backs have the ability to tilt. A 6" recess shall be designed into the front bulk head wall of the module body to accomplish this. The recess shall be constructed with welded aluminum panels so as to assure that neither the structural integrity of the body, nor the safety of the module body design, shall be compromised. Bulk head walls that are constructed using wood are not desirable as they feature weaker structural characteristics when compared with aluminum.

INSULATION:

The patient area, including the doors, shall be insulated for both thermal and acoustic insulation. The headliner area of the vehicle shall also include a barrier insulation of material for increased protection.

STREETSIDE FRONT COMPARTMENT (#1):

The compartment described above shall feature the following minimum dimensions:

Clear Door Opening: 18.2" wide x 79.1" high
Actual Dimension: 22.0" wide x 82.1" high x 20.3"

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. The compartment shall house the vehicle's primary O2 cylinder and shall be vented to the outside in such a way as to prevent moisture from entering the compartment. Under no circumstances shall vents be installed within the compartment door. The compartment itself shall be constructed as an individual box and welded into the body structural framing. The material used shall be .125" polished aluminum diamond plate that is continuously welded at all seams. The compartment

shall include two strips of LED lights, one to either side of the compartment door, to provide lighting inside the compartment.

SHELVING FOR VERTICAL EXTERIOR COMPARTMENT:

A shelf shall be installed in the location(s) noted below. All shelving is to be fabricated from 3003-H14 aluminum diamond plate. This material is to be .125" thick. All shelving is to include a 2" integral lip to prevent equipment from sliding off of the shelf. The compartment light shall meet the lighting criteria as described elsewhere within this specification.

Quantity: 2
Locate: Upper third of streetside forward compt
Locate: Lower third of streetside forward compt

ZICO QR-OTS ELECTRIC CYLINDER LIFT/BRACKET:

A Zico model QR-OTS electrically operated cylinder lift/bracket shall be installed as noted below. This equipment will allow for loading and unloading of the onboard O2 cylinder by lifting the cylinder from the ground to the compartment floor, thus eliminating the need for personnel to physically lift the cylinder. Once inside the compartment the equipment shall feature a lever to lock it into place. The electrical controls for this lift/bracket shall be located on the inside panel of the oxygen compartment door.

Bottle size: M
Compartment: Right rear of streetside rear compartment

LOCATION OF O2 TANK TRACK:

The O2 tank track shall be located as follows:

Locate: Right side rear of streetside compartment

STREETSIDE INTERMEDIATE COMPARTMENT (#2):

The compartment described above shall feature the following minimum dimensions:

Clear Door Opening: 49.2" wide x 38.3" high
Actual Dimension: 51.5" wide x 41.5" high x 20.3"

This compartment shall be accessed through double hinged doors meeting the standards for door construction, hinging, and latching outlined within this specification. A portion of this compartment shall house the vehicle's required onboard electrical components as specified for use on this vehicle. The remainder of the compartment shall be utilized for storage of miscellaneous items as required by this purchaser. This compartment shall be vented to the outside in such a way as to prevent moisture from entering the compartment. Under no circumstances shall vents be installed within the compartment door unless they are required for airflow to equipment installed within this compartment. The compartment itself shall be constructed as an individual box and welded into the body structural framing. The material used shall be .125" polished aluminum diamond plate that is continuously welded at all seams. The compartment shall include two strips of LED lights, one to either side of the compartment door, to provide lighting inside the compartment.

DIVIDER FOR PROTECTION OF ELECTRICAL EQUIPMENT

A vertical divider shall be installed. The divider shall be non-adjustable and shall be fabricated from the same material used in the construction of the compartment in which it is to be installed. This divider is to isolate the required vehicle electrical equipment from the rest of the compartment.

SHELVING FOR DOUBLE-DOOR EXTERIOR COMPARTMENT:

A shelf shall be installed in the location(s) noted below. All shelving is to be fabricated from 3003-H14 aluminum diamond plate. This material shall be .125" thick. All shelving is to include a 2" integral lip to prevent equipment from sliding off of the shelf. The compartment light shall meet the lighting criteria as described elsewhere within this specification.

Quantity: 1
Locate: Left side of divider

STREETSIDE REAR COMPARTMENT (#4):

The compartment described above shall feature the following minimum dimensions:

Clear Door Opening: 32.0" wide x 54.3" high
Actual Dimension: 37.4" wide x 57.5" high x 20.3"

This compartment shall be accessed through double hinged doors meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall be utilized for storage of miscellaneous items as required by this purchaser. This compartment shall be vented to the outside in such a way as to prevent moisture from entering the compartment. Under no circumstances shall vents be installed within the compartment door. The compartment itself shall be constructed as an individual box and welded into the body structural framing. The material used shall be .125" polished aluminum diamond plate that is continuously welded at all seams. The compartment shall include two strips of LED lights, one to either side of the compartment door, to provide lighting inside the compartment.

DIVIDER FIXED, VERTICAL COMPARTMENT

A 16" vertical divider shall be installed as noted below. The divider shall be non-adjustable and shall be fabricated from the same material used in the construction of the compartment in which it is to be installed.

Quantity: 1
Locate: Close to 02 bottle bracket as possible

SHELVING FOR HORIZONTAL EXTERIOR COMPARTMENT:

A shelf shall be installed in the location(s) noted below. All shelving is to be fabricated from 3003-H14 aluminum diamond plate. This material shall be .125" thick. All shelving is to include a 2" integral lip to prevent equipment from sliding off of the shelf. The compartment light shall meet the lighting criteria as described elsewhere within this specification.

Quantity: 1
Locate: Left side of divider, 30" from compartment floor for inside outside access

CURBSIDE REAR COMPARTMENT (#5):

The compartment described above shall feature the following minimum dimensions:

Clear Door Opening: 22.1" wide x 79.1" high
Actual Dimension: 26.2" wide x 82.1" high x 20.3"

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall be utilized for storage of miscellaneous items as required by this purchaser. This compartment shall be vented to the outside in such a way as to prevent moisture from entering the compartment. Under no circumstances shall vents be installed within the compartment door. The compartment itself shall be

constructed as an individual box and welded into the body structural framing. The material used shall be .125" aluminum that is continuously welded at all seams. The compartment shall include two strips of LED lights, one to either side of the compartment door, to provide lighting inside the compartment.

DIVIDER FIXED, VERTICAL COMPARTMENT

A 16" vertical divider shall be installed as noted below. The divider shall be non-adjustable and shall be fabricated from the same material used in the construction of the compartment in which it is to be installed.

Quantity: 1
Locate: Centered in compartment

ROK BACKBOARD STRAP:

A ROK buckle type backboard strap shall be installed as noted below:

Locate: Left side of divider

SWEEP OUT COMPARTMENT FLOOR:

The floor of the compartment(s), as noted below, shall be flush with the door frame so as to provide a sweep-out style compartment bottom. There shall be no lip at the forward edge of the compartment bottom, or any other obstruction, that may hinder the purchaser's ability to sweep the compartment free of dirt and/or debris.

Quantity: 1
Locate: Backboard compartment

CURBSIDE FRONT COMPARTMENTS (#6 & #7)):

COMPARTMENT #6:

The compartment described above shall feature the following minimum dimensions:

Clear Door Opening: 22.1" wide x 65.0" high
Actual Dimension: 27.2" wide x 65.0" high x 28.5" deep

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall also be accessible from the vehicle interior front wall area. This compartment shall be utilized for storage of purchaser-supplied jump kits and other miscellaneous items as required by this purchaser. The compartment itself shall be constructed as an individual box and welded into the body structural framing. The material used shall be .100" aluminum that is continuously welded at all seams. The compartment shall include two strips of LED lights, one to either side of the compartment door, to provide lighting inside the compartment.

COMPARTMENT #7:

The compartment described above shall feature the following minimum dimensions:

Clear Door Opening: 22.1" wide x 12.6" high
Actual Dimension: 27.2" wide x 12.6" high x 20.3" deep

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall be utilized for storage of two vehicle batteries on a roll-out tray. This compartment shall be vented to the outside in such a way as to prevent moisture from entering the compartment. Under no circumstances shall vents be installed within the compartment door. This compartment shall be completely

isolated from the vehicle interior. The compartment itself shall be constructed as an individual box and welded into the body structural framing. The material used shall be .125" polished aluminum diamond plate that is continuously welded at all seams.

KKK-A-1822 CERTIFICATION LABEL:

The vehicle shall have weight/payload, electrical load, and the current KKK-A-1822 certification stickers installed in the O2 compartment. Failure to provide these certification labels will be cause for rejection of the completed vehicle. Labels that are found to be falsified will also be cause for rejection of the completed vehicle. The purchaser reserves the right to request documentation showing that all required testing has been completed at the time of the bid opening. Failure to provide this documentation, if requested, will result in the bid being rejected without further consideration.

SPECIAL BODY REQUIREMENTS:

The requirements set forth in the following section of this specification represent items and features that may not be offered as standard by the bidder. If the bidder is unable to furnish any items listed in this section, then that inability must be listed and explained in the bidder's list of exceptions. Failure to do so will result in rejection of the bidder's proposal as being non-responsive.

SOUNDPROOFING:

To insure good working conditions and to create a stable patient environment, the vehicle shall be manufactured with particular attention paid to sound control. The following process must be performed throughout the manufacturing cycle of the vehicle:

1. Underbody shall be completely sprayed with sprayable, non-flammable latex sound control coating

2. Body Interior walls, roofs and interior compartment walls shall be sprayed with sprayable non-flammable latex sound control coating

3. The interiors of all access doors shall be sprayed with sprayable non-flammable latex coating

4. The backs of all interior cabinets shall be wrapped in antiphon damping material

5. Door interiors are to be lined with polydamp intefoam extensional damping pad

6. The body structural tubes shall filled with non-resonating dampening material

7. Side stepwell areas are to be backed with PT Damping Pad

8. All walls shall be insulated with 2" Technicon polyfiber acoustic insulation. Headliners shall be double insulated with 2" Technicon Polyfiber and a Reflectix barrier.

9. A .125" damping pad, a .125" sound barrier sheet, and a .625" composite floor panel sandwiched between aluminum sheets shall be installed prior to installation of the vinyl floor covering.

MODULE BODY HARDWARE:

The following section lists hardware items that are to be installed on the vehicle body.

ELECTRONIC PRIVACY WINDOWS, DOORS:

The patient area door windows shall include liquid crystal privacy control. When privacy is needed, a switch shall be activated to turn the windows solid so they cannot be seen through even at a very close distance. The windows shall return to clear with a second touch of the switch. All door windows to have fixed glass. Additional programming settings shall default the window settings to opaque with the battery switch off, and transparent when the battery switch is turned on. The switch shall be labeled "PRIVACY" and shall be the same type of switch as described in the electrical section of this specification.

Switch Location: Head of bench

EMERGENCY RELEASE PROVISION:

The manufacturer shall install emergency release latches at the top and bottom of the interior of the rear entry doors. These will allow egress in the event of a door latch failure. The release knobs are to activate the rotary at the top and bottom of each door. The knobs are to include black round ball-type surfaces for ease of grip and non-intrusive appearance.

BODY MOUNTS:

This purchaser requires a mounting system that provides a stable and durable attachment of the module body to the chassis frame. To accomplish this requirement the following body attachment method shall be used:

A minimum of (4) four Mounting platforms shall be attached along the outside of each chassis frame rail for a total of (8) eight. Each platform shall consist of (1) top plate of .375" thick steel and (2) side reinforcement plates made of .25" steel. There shall be a .375" full backing plate where the mount attaches to the frame rail. The plates shall be welded along all seams with a heavy continuous weld. The body substructure shall include a 1" by 3" solid aluminum tie down bar welded to each sub structure cross member. To complete the body to chassis attachment, a tuned mounting system shall be used. The elastomer mount shall be custom-tuned to the specific chassis type for vibration reduction, structure borne noise attenuation and to provide low profile, low frequency isolation necessary for ideal patient compartment conditions. The mount shall be attached to each platform by (2) .625" Grade 8 bolts with washers and locking nuts. The platform shall be attached to the chassis frame rail with a minimum of (3) .625" diameter Grade 8 bolts with washers and locking nuts. The fail safe elastomer isolation mount shall then attach to the aluminum body tie down bar with a .75" diameter Grade 8 bolt, a washer, and a locking nut.

SPLASH SHIELDS:

Stainless steel splash shields are to be installed on the lower front face of the module body just aft of the cab access doors. These shields are to have a #8 mirror finish and shall match the height of the diamond plate corners guards that are to wrap around the lower corner posts on the side of the body.

STAINLESS STEEL FENDERS:

Polished stainless steel fender flares shall be installed above each wheel well opening. The mounting of these flares shall provide for no contact between the stainless steel fender, fasteners, and the aluminum body skin. This is done to eliminate any contact between dissimilar metals and the electrolysis that may result.

RUB RAILS:

Polished stainless lower body rub rails shall be installed on each side of the module body. Each rail shall be securely installed yet simple to remove and replace in the event of damage. Each rail is to be a three piece assembly to include a channel style rub rail

and two removable end caps. These rails are to have a #8 mirror finish. Rubber rub rails are not acceptable to this purchaser.

REAR ACCESS DOOR HOLD-OPEN DEVICES:

Cast Products "Grabber" style rear door hold-open devices shall be installed to maintain the rear access doors in the 'open' position. One loop shall be installed on each door, and the appropriate socket shall be installed on the body. These devices are to be chrome finish in lieu of Cast Products' standard finish.

ELECTRIC LOCKS, ACCESS DOORS:

Power activated door locks shall be installed on patient area access doors. Locks shall be activated by switches located at each patient area access door. Locks may be overridden by a manual slide lever or by the door key. A separate lock switch will be located in the front radio console

CONCEALED DOOR LOCK SWITCH:

A concealed weatherproof switch shall be installed as indicated below to operate the power door locks specified above. The switch shall be wired to unlock only.

Locate: Grill – Unlock Cab Doors Only

RECESSED LICENSE PLATE BRACKET:

A Cast Products recessed license plate bracket shall be installed as noted below. The bracket will include lighting in the top to illuminate the license plate.

Locate: Centered in rear riser

REFLECTORS ON ENTRY DOORS:

Red reflectors shall be installed on the inside on the patient area doors.

DOOR REFLECTION:

Red Scotchlite strips, 2" x 12", shall be installed horizontally across the top of each entry door. This material is in addition to the reflectors listed above.

RUBBER MATTING IN EXTERIOR COMPARTMENTS:

Black rubber matting material shall be cut to size and installed on the bottoms of all exterior compartments and shelves. The material shall feature integral ridges to help equipment to stay in place.

RUBBER-COVERED WALLS IN BACKBOARD COMPARTMENT:

The walls of the backboard compartment shall be covered with self-adhesive textured rubber matting to protect the walls and the equipment stored in this area from any damage.

Color: Gray

PAINT AND STRIPING:

A paint process is required that provides the highest possible gloss as well as superior color and luster retention characteristics. In addition, the paint process must provide a high resistance to chemical sprays, salt sprays, humidity, and temperature changes. Lastly, this process, given the expected life of the vehicle and its heavy-duty cycle, must resist chipping. The final paint application shall be free of material application

imperfections such as orange peel, streaking, or a dull finish. Once painted, the vehicle shall be inspected under a black light to bring any small imperfections, not seen with the naked eye, to attention. Any such imperfections shall be repaired prior to the conclusion of the paint inspection process. The final application shall provide a high gloss finish.

PAINT WARRANTY:

The paint warranty provided by the converter must meet all warranty standards as set forth elsewhere within this specification. Bidder must submit a manufacturer's paint warranty certificate with the bid. Failure to do so will result in automatic rejection of the bidder's proposal.

CHASSIS PAINT COLOR:

The OEM chassis manufacturer's bright white paint shall be ordered on the chassis.

BODY PAINT COLOR:

The final paint application to the vehicle body shall be made with Sikkens Autocryl acrylic urethane paint.

Color: White
Number: FLNA4002

CABINET DOORS, PLEXIGLAS, HANDLES AND HARDWARE:

Information relative to interior door materials, handles, and hardware is provided below:

HANDLES FOR PLEXIGLAS DOORS:

All interior sliding Plexiglas doors are to include extruded pull handles.

LATCHES FOR HINGED DOORS:

Install spring loaded lever style latches on the interior cabinets to meet NFPA 1917 standards. Use in all cabinet and plexi doors unless otherwise noted in specifications or drawings.

PLEXIGLAS COLOR:

The Plexiglas interior cabinet doors shall be clear.

STAINLESS STEEL COUNTERTOP:

The patient area countertop(s) shall be constructed of stainless steel. The countertops shall be pan-formed and shall incorporate a 1" retention lip around the perimeter of the material. Areas where the stainless steel material meets the vehicle walls shall be sealed to eliminate seams. The front lip on the countertop shall be protected with grip-lock material.

INHALATION PANEL:

To prevent contamination of the inhalation panel the panel shall be fabricated using no wood or wood based products. The material used shall be an aluminum composite material. This material shall not absorb liquids and shall not attract bacteria, molds or fungi. The material is to be covered with Formica material in a color matching that required within this document.

INTERIOR COLORS, UPHOLSTERY AND SEATING:

The patient area interior design is specified below:

INTERIOR WALLS/DOOR PANELS:

The interior wall and door panels in the patient area are to be finished with a non-laminate material possessing the following properties:

-Finger print resistant
-Resistant to yellowing
-Temperature resistant between -40 degrees and 212 degrees F.
-Resistant to oils, greases, weak acids and salts
-Verified tensile strength of 34mpa

No wood or wood-based products are to be used within the specified material and no laminate should be utilized anywhere in the interior.

The risers and the lower door panels are to be covered with brushed stainless steel.

Color: To match existing Fredericksburg Units

INTERIOR COLOR SCHEME:

The following materials/colors shall be installed in the vehicle interior: It is the intent to closely match existing Fredericksburg
Units.

Floor:	Putty
Risers:	Port
	(option) Stainless
Walls:	Almond
Cabinets:	Buff Paint
Upholstery:	Burgundy
Countertop:	Stainless Steel
	(option) LG - Allspice Quartz
Accent Stripe:	Pebble

INTERIOR STORAGE AREAS:

All interior storage cabinets, including the interior of the squad bench, shall be painted for ease of cleaning. Under no circumstances shall carpet be used within these storage cabinets as it is impossible to decontaminate. The paint color is listed within the "Interior Color" section of this specification. The paint shall be treated with an antimicrobial agent.

RISERS:

The interior of this vehicle shall be constructed without the use of wood or wood-based products. The risers shall be constructed of a reinforced structural composite consisting of a high density polypropylene core laminated between two layers of .024" aluminum skin. The composite shall then be covered by a Formica laminate to match the interior of the vehicle. The finished riser panels shall be impervious to water or other forms of moisture and must be guaranteed against rotting or decomposition. Formica laminate will not be installed on the risers if stainless steel riser options are selected.

STAINLESS STEEL STREETSIDE RISER:

The street side riser beneath the main cabinet wall shall be covered with a single sheet of stainless steel. If the "Interior Color" section of this specification calls for an accent

stripe, then the stainless steel shall stop at the bottom of this stripe. The stainless material shall be installed flush with the riser and trimmed at the top and both sides so as to cover the edges. The bottom of the material shall be formed at a 90 degree angle so that, upon installation, the 4" rolled floor will seal against the stainless steel. Designs that do not include this stainless steel riser will not be considered as they will not be capable of protecting the riser from damage due to cot movement, Etc. In addition, stainless steel risers that have exposed edges, or that are more than one piece, will not be acceptable. Drawer and tip-out faces will be constructed with brushed aluminum laminate. Actual stainless steel faces must be specified as an additional requirement and at additional cost.

STAINLESS STEEL CURBSIDE RISER:

The curbside riser beneath the squad bench shall be covered with a single sheet of stainless steel. The stainless material shall be installed flush with the riser and trimmed at the top and both sides so as to cover the edges. The bottom of the material shall be formed at a 90 degree angle so that, upon installation, the 4" rolled floor will seal against the stainless steel. Designs that do not include this stainless steel riser will not be considered as they will not be capable of protecting the riser from damage due to cot movement, Etc. In addition, stainless steel risers that have exposed edges, or that are more than one piece, will not be acceptable. Drawer and tip-out faces will be constructed with brushed aluminum laminate. Actual stainless steel faces must be specified as an additional requirement and at additional cost.

STAINLESS STEEL LOWER DOOR PANELS:

The lower portion of the patient area entry doors shall be covered with single sheets of stainless steel. If the "Interior Color" section of this specification calls for an accent stripe, then the stainless steel shall stop at the bottom of this stripe. Designs that do not incorporate this feature will not be considered as they will not be capable of protecting the door panels from damage due to cot movement, foot traffic, Etc.

ATTENDANT SEAT:

An attendant's seat base shall be fabricated from aluminum and shall be installed in a position at the head of the cot. The base shall house the vehicle's heat/AC unit as described in that section of this specification. The material shall be perforated to promote airflow to the unit. An EVS bucket type seat with a built-in child safety seat and 3-point occupant restraint shall be installed on the seat base in the rear-facing position. The seat shall be upholstered to match the vehicle interior, and shall be capable of adjustment from front to rear. Under NO circumstances shall this seat be installed in any manner that allows it to swivel due to the lack of stability and weaker structural characteristics inherent in such designs.

SEAT BELTS:

Each seating position shall include seat belts as follows:

Attendant seat:	Three point seat belt.
CPR seat:	Three point seat belt with removable third point latch.
Ends of bench:	Three point seat belt with removable third point latch.
Center of bench:	Two point seat belt.

Each seat belt shall have been tested to verify its latching capabilities and performance as well as the extent to which it allows movement by the "spooling effect" within the retractor. Those tests shall verify that this spooling effect allows less than three inches (3") of belt travel before latching.

ALUMINUM INTERIOR CABINETS, STREET SIDE:

This specification requires an all-aluminum modular cabinet design. Aluminum, a minimum of .063" thickness, is required over wooden cabinetry due to its lighter weight, greater durability, and the ease with which it can be decontaminated. The main cabinet wall shall be of modular construction. All individual cabinets shall be of welded construction. The main cabinet wall may not be constructed of any wood or wood product. Wooden cabinetry can warp, expand, contract, splinter, separate, or crack. Wood will also harbor blood borne pathogens whereas aluminum can be easily leaned. Aluminum will remain stable and securely mounted (no fibers to compress) over many years and miles of continuous service. For these reasons, wooden cabinets, even when laminated with another material, will not be acceptable. Bids received that utilize any material other than that which is specified above will be considered non-responsive and will be rejected without further consideration.

CABINET TRIM:

The interior of the ambulance module shall have radius corner extrusions. The radius shall be a minimum of one and a half inches. The radius trim shall also include a removable cap that can be field replaced if damage occurs. (No Exception)

INTERIOR CABINETRY, STREET SIDE

All of the aluminum cabinetry within the vehicle shall be of welded construction. Methods of cabinet construction that utilize rivets or adhesives of any type will not be considered.

ALUMINUM CABINET WARRANTY:

The all-aluminum cabinet construction, as described within this section, shall be warranted against any structural defects for a period of time not less than 15 years. This warranty shall be stated within the manufacturer's structural warranty document, and shall not be subject to any mileage limitations.

CABINET BEHIND ATTENDANT SEAT:

A vertical storage cabinet shall be located behind the attendant seat. The upper storage area shall house the primary electrical distribution area. The lower section shall be used for miscellaneous storage. The left and right cabinet walls shall be fitted with an aluminum adjustable shelf. Each area shall be accessed through hinged doors. The electrical distribution area shall include a key lock/latching device. The entire cabinet shall be fabricated from aluminum. The interior of the cabinet shall be painted and trimmed as described in the cabinet construction section of the specification.

Number of Doors:	2 (Including Electrical Cabinet)
Number of Shelves (Adjustable):	2
Number of Shelves (Fixed):	1

INTERIOR OCCUPANT PROTECTION:

For the safety of the attendants working in the patient area, the vehicle shall be equipped with an interior occupant protection air bag system suitable to protect occupants of this area.

ATTENDANT'S SEAT PROTECTION:

The attendant seat location shall be protected by an occupant protection air bag system suitable to protect occupants of this area.

CPR SEAT PROTECTION:

The CPR seat location shall be protected by a combination of interior occupant protection air bag system at the forward side to protect against entry into the inhalation area as well as a system of progressive resistance head protection cushions.

TESTING:

All air bag and restraint systems must have been tested by a third party independent testing company, with documentation included in this RFP

STREET SIDE CABINET WALL:

The street side main cabinet wall shall be constructed from aluminum as described above. Each cabinet within the cabinet wall shall be designed and constructed as an individual welded aluminum box. Each box shall be insulated and soundproofed. The boxes shall then be bolted together to form the main cabinet wall. This design will allow for future modifications to the cabinetry should equipment storage requirements be updated. The cabinet wall assembly shall be further insulated against noise and temperature extremes. The entire assembly shall be bolted to the module body structure. Cabinets that are welded or otherwise permanently affixed to the module body structure will be unacceptable. Such permanent installation methods limit the ability to make design updates at a later time. They also increase the time and cost involved with regard to remounting the body onto a new chassis should that occasion ever arise. Likewise, cabinets mounted with the use of either rivets or adhesives of any kind will not be considered without exception.

RESTOCKING CABINET FRAMES, STREETSIDE:

The street side cabinet(s) listed below shall feature sliding Plexiglas doors that hinge upward for cleaning and restocking of the cabinet in addition to the normal sliding mode of operation. The extruded door frame shall be installed at the top with a full length piano hinge. This will allow the entire frame to flip upwards providing complete access to the cabinet. The door and frame shall be held in the "up" position with two gas-charged cylinders, and in the down position with two sliding dead bolt type latches. The remainder of the door construction shall adhere to the appropriate section of this specification.

CPR SEAT STORAGE:

The CPR seat cushion shall be hinged upward to allow for access to the area beneath it. This area shall provide miscellaneous storage. The storage area shall be fabricated with aluminum diamond plate and shall be as large as is possible given the location of the exterior compartmentation and wheel house.

LIFE PACK BRACKET:

A Ferno Washington swivel bracket shall be provided for a purchaser furnished Physio-Control LifePack 15. The bracket shall be installed as follows.

Locate: Head of squad bench

INSIDE/OUTSIDE ACCESS:

An inside/outside dual access storage area shall be provided as indicated below. This area shall be accessible through both an exterior compartment door, and an interior cabinet door.

INTERIOR CABINETS, CURB SIDE:

All of the cabinets located within this section shall meet the same standards for construction, design, materials, and testing as designated in the previous section. Failure of the bidder to provide cabinets meeting these criteria shall be grounds for rejection of the bid as being non-responsive.

SQUAD BENCH STORAGE:

A storage area, fabricated from .125" 5052-H32 aluminum, shall be installed beneath the squad bench cushions. This storage area shall be painted and trimmed per the cabinet construction section of this specification. Access to this area shall be gained by raising the bench cushion. This area shall be as large as possible given the presence of the wheelhouse directly beneath this area. Note that storage areas made of wood, whether or not they are laminated or otherwise covered with another material, will not be acceptable.

BENCH HOLD OPEN:

Gas piston style hold-open devices shall be installed on the flip-up squad bench cushion. These devices will provide for smooth and simple operation. For that reason substitute hold-open devices, such as ratchet style devices, will not be acceptable.

BENCH HOLD DOWN:

Paddle style latches shall be installed on each flip-up bench cushion to hold the cushions in the 'closed' position. The operation of these latches shall be passive and shall require intentional unlatching in order to raise the squad bench cushion. Each latch is to be flush mounted in the face of the squad bench riser.

SQUAD BENCH EDGE PROTECTION:

An aluminum angled trim piece shall be installed along the bottom edge of each bench cushion. Each piece shall be bent to follow the contour of each cushion on the horizontal plane. These trim pieces shall provide added protection for the upholstery against extensive wear.

BENCH BACKREST:

A full backrest cushion shall be installed on the wall over the squad bench. The cushion is to extend the full width of the squad bench and shall be trimmed to match the interior of the vehicle. The upholstery shall be as described in the upholstery section of this document.

BENCH WALL DRAWER:

A drawer shall be installed on Grant slides on the bench wall as noted below. This drawer is to be .063" 5052-H32 welded aluminum. All welds are to be continuous. The drawer shall include a suitable latch to hold it in the 'closed' position.

Quantity: 2
Locate: Head of bench

BENCH CEILING CABINET:

A cabinet shall be installed at ceiling level over the full length of the squad bench. This cabinet is to be fabricated from .063" 5052-H32 welded aluminum. The interior of the cabinet shall be painted per the cabinet construction description listed elsewhere within this specification. The cabinet is to be accessed through hinged Plexiglas doors that are held in the 'open' position by gas piston hold-open devices. This cabinet is to be a maximum of 9" H to allow enough clearance between the bottom of the cabinet and the top of the seat below to meet KKK-F requirements.

ALUMINUM INTERIOR CABINETS, FORWARD WALL:

Like all other cabinets in the patient area that are to be fabricated and installed by the manufacturer, the cabinets on the forward wall are to be fabricated from aluminum as dictated in the appropriate section above. Again, failure of the bidder to meet the criteria established within this specification with regard to cabinet design, construction, materials, and testing will be cause for rejection of the bid as being non-responsive.

FRONT WALL CABINET:

A cabinet shall be provided on the front wall of the patient area just inside the side access door. This cabinet shall run from floor to ceiling and shall be fabricated from .3003-H14 welded polished aluminum diamond treadplate. The cabinet shall be anchored at both the top and bottom for stability. This stability must have been tested through a Hygee sled test of at least 30g's. Under no circumstances shall this cabinet be welded to any module body structural member. This storage area shall be used to house purchaser supplied bagged equipment and supplies.

Shelf Quantity:	3
Shelf Type:	1 fixed, 2 adjustable
Shelf Liner:	rubber matting

FRONT WALL CABINET HINGED DOORS:

Access to the front wall cabinet, as described above, shall be provided per the description below.

Door Type:	Hinged Plexiglas
Quantity:	2 (Equal size)
Locate:	Front wall cabinet
Latch Style:	Spring loaded lever latch

Note: The hinges on the front wall cabinet shall be polished stainless steel stamped from Grade 304 stainless steel to prevent corrosion.

MODULE INTERIOR ACCESSORIES AND TRIM:

The following section addresses interior accessories and trim features. All installation locations, as noted below, shall be strictly adhered to by the bidder. The items in this section will directly influence the quality of care given to the patient, as well as the safety of the attendants. For these reasons the installation locations listed below must be met without exception.

IV HOOKS:

Cast Products recessed swing-down IV hangers shall be installed per the instructions listed below. These hangers are to be near flush mounted into the patient area ceiling to reduce their interference with the walkway when not in use. The arms of each hanger shall be rubberized so as to reduce the possibility of injury that may occur if contact is made with them. This style IV hanger shall be sufficient to meet Federal KKK-1822-E.

Quantity:	4
Locate:	Head and foot of cot
	Head and foot of bench, aisle edge

CEILING GRAB RAIL WITH ANTI-MICROBIAL COATING:

A grab rail shall be installed in the ceiling as noted below. This rail is to be constructed of stainless steel. Integral stanchions shall be welded into place at fixed points along the length of the rail for attachment to the ceiling. The rail shall attach through aluminum mounting plates that are welded to the module roof structure for strength

and durability. Because contamination occurs most often as a result of contact, this feature must be treated with an anti-microbial agent consisting of an inorganic ceramic coating embedded with silver ions. This coating shall be effective against a broad range of microbes including bacteria, molds, algae and fungi.

Size: Quantity = (2) 8'
Locate: Over cot – streetside

PATIENT AREA DOOR GRAB RAILS:

Angled door handles shall be installed on the interior door panels of each access door. The handles shall be one-piece and shall be constructed of stainless steel. The handles shall feature smooth radius corners and flange mounts at each attachment point. Because contamination occurs most often as a result of contact, this feature must be treated with an anti-microbial agent consisting of an inorganic ceramic coating embedded with silver ions. This coating shall be effective against a broad range of microbes including bacteria, molds, algae and fungi.

COVE MOLDING:

A radius cove molding shall be installed at all areas of the floor that may have seams.

PROTECTIVE EDGE TRIM:

The 90 degree edges of the squad bench, the attendant seat riser, and the front wall cabinet shall be protected by a chamfered trim angle.

CEILING:

The patient area ceiling shall be constructed of a bright white aluminum composite material consisting of a polyethylene core laminated between two sheets of coated aluminum. The headliner shall be smooth, impervious to moisture, easy to clean and durable. It shall have the same rate of expansion and contraction as the aluminum body. Headliner that is padded or upholstered in any way will not be considered, nor will any headliner made of wood or wood products due to the lower degree of durability and the risk of contamination inherent in such materials. Plastic, fiberglass or ABS headliner material is not acceptable due to the cracking commonly causing by the differing rates of expansion. Lastly, the headliner material shall be treated with an antimicrobial agent. The bidder, at the request of the purchaser, may be required to submit proof of the application along with a detailed description of the agent used and the types of organisms that it effects.

SPECIAL INSTRUCTION, INTERIOR ACCESSORIES & TRIM:

There shall be two (2) Sharps containers provided location TBD

COT MOUNTS AND ACCESSORIES:

The following cot mounting hardware shall be installed per the instructions listed below. The installation shall meet the hardware manufacturer's installation guidelines.

Does your installation meet the sled testing requirements?

COT MOUNT:

Bidder is to install a customer supplied Stryker Power Load system. The system itself will not be supplied by the manufacturer or dealer.

COT FLOOR PLATES:

Stainless steel floor plates, .050" thick, shall be installed on the patient area floor below the cot wheels. The floor plates shall be attached to the floor with #6 flathead stainless

steel screws. The entire perimeter of each plate shall be sealed to the floor with silicone to protect the area beneath the plates from contamination.

ELECTRICAL EMERGENCY VISUAL WARNING SYSTEMS:

Warning lights are to be installed per the following instructions:

FLASHING SEQUENCE FOR LED LIGHTING

There shall be two zones setup for flashing of lights. Installed with a control wire for each light head and control panel for programmability to change each zone flash pattern.

ZONE 1: ALL RED M9 LIGHTS - SINGLE FLASH 300 TOP/BOTTOM

ZONE 2: ALL OTHER M4/M7/M6 LIGHTS - ACTION FLASH 150 - SOLID

M Series control wire

The unit shall include a control wire designed to allow for changing the flash patterns on the specified M Series lighting.

L.E.D. WARNING LIGHTS ON COMPARTMENT DOORS:

Install custom made L.E.D. light strip(s) on the compartment door interior door panels. The light strip shall be comprised of an array of L.E.D. lights, centered behind an integral lens for maximum light disbursement. Each light strip is to be twelve inches in length with 3" sections of alternating light colors as noted below. When mounted the lens shall be flush with the aluminum diamond plate inner panel. The light strip shall flash when the compartment door is open, and the red flashing light circuit is activated. The lens shall be designed to provide a bright and intense light from a distance. As distance is decreased the light shall become less intense, preserving night time visibility for people working near the vehicle. L.E.D. lamps shall be used due to their "cold" operating temperature, low amp requirement, and long life expectancy. The lights are to provide additional lighting to warn traffic and pedestrians of open compartment doors, and to provide additional safety for the attendants.

Quantity:	3
Compartment:	All full height vertical exterior Compartment doors
Color:	Red/Amber
Status:	Flash

L.E.D. WARNING LIGHTS ON ACCESS DOORS:

Install custom made L.E.D. light strip(s) on the side and rear patient area access door interior door panels. Each light is to include 3" sections of alternating light colors as noted below. Each light strip shall include an array of L.E.D lights centered behind an integral lens for maximum light disbursement. Each light strip is to be twelve inches in length. When mounted the lens shall be flush with the inner door panel. The light strip shall flash when the access door is open, and the red flashing light circuit is activated. The lens shall be designed to provide a bright and intense light from a distance. As distance is decreased the light shall become less intense, preserving night time visibility for people working near the vehicle. L.E.D. lamps shall be used due to their "cold" operating temperature, low amp requirement, and long life expectancy. The lights are to provide additional lighting to warn traffic and pedestrians of a stationary emergency vehicle with open access doors, and to provide additional safety for the attendants.

Quantity:	1
Locate:	Side entry door
Color:	Red/Amber

Status: Flash

L.E.D. WARNING LIGHTS REAR:

Install custom made 12" L.E.D. light strip(s) on the rear of the body, five (5) on either side of the rear entry doors. The lights are to be installed with chrome bezels and at an angle to mimic a chevron type design. Each light strip shall include an array of L.E.D lights centered behind an integral lens for maximum light disbursement. Each light strip is to be twelve inches in length. When mounted the lens shall be near flush with the body skin. The light strip shall flash when the red flashing light circuit is activated. The lens shall be designed to provide a bright and intense light from a distance. As distance is decreased the light shall become less intense, preserving night time visibility for people working near the vehicle. L.E.D. lamps shall be used due to their "cold" operating temperature, low amp requirement, and long life expectancy. The lights are to provide additional lighting to warn traffic and pedestrians of a stationary emergency vehicle and to provide additional safety for the attendants.

Quantity: 10
Locate: Vertical on rearof body
Color: Red/Amber
Status: Flash

WHELEN M SERIES LIGHTING:

L.E.D. LIGHTING:

Whelen M4 Series red/white side/side split L.E.D. lighting shall be installed per the quantity and location requirements listed below. All lighting is to include the optional chrome flange. Clear lens is standard for split color light heads.

Quantity: 4
Locate: Grille

L.E.D. LIGHTING:

Whelen M7 Series amber L.E.D. lighting shall be installed per the quantity and location requirements listed below. All lighting is to include the optional chrome flange.

Quantity: 1
Location: Centered over rear doors
Lens color: Clear

L.E.D. LIGHTING:

Whelen M9 Series red L.E.D. lighting shall be installed per the quantity and location requirements listed below. All lighting is to include the optional chrome flange.

Quantity: 8
Location: Corners of body
Lens color: Clear

L.E.D. LIGHTING:

Whelen M7 Series red L.E.D. lighting shall be installed per the quantity and location requirements listed below. All lighting is to include the optional chrome flange.

Quantity: 4
Location: Intersection and centered over wheel wells
Lens color: Clear
WHITE LIGHT CUTOFF SWITCH:

A switch shall be installed in the front control panel that will deactivate all forward facing white flashing lights. This includes wig-wag flashers if ordered.

SPECIAL INSTRUCTION, VISUAL EMERGENCY WARNING:

Vendor shall supply and install a Whelen 500 series strobe light with a flush mounting kit and trim ring on the front face of the for use with Opticom. Cable in console extension and wired through neutral safety switch including a switch in the front control panel. Install a priority green transmitter in the electrical cabinet to flash the strobe as a traffic emitter.

SPECIAL INSTRUCTION, VISUAL EMERGENCY WARNING:

Forward facing clear lights should be off in secondary model. All other remaining lights stay on in secondary mode.

AUDIBLE EMERGENCY WARNING SYSTEMS:

The following audible emergency warning features shall be installed on the vehicle:

SIREN:

The vehicle manufacturer shall supply and install a Whelen 295SLSA1 siren as noted below.

Siren Location:	Cab Radio Console
Quantity:	1

SIREN INSTALLATION:

The electronic siren specified above shall be installed in the designated location and wired for operation through the speakers noted below.

SIREN SPEAKERS:

Cast Products SA3804 series speakers shall be installed on the chassis per the instructions listed below. The speakers shall be wired for operation through the siren listed above.

Quantity:	2
Locate:	Bumper mounted

SIREN SPEAKER INSTALLATION:

The siren speakers specified above shall be bumper mounted and wired for operation.

LIGHTING:

Lighting information is noted below:

SIDE BODY RUNNING LIGHTS:

One Whelen M6 Series L.E.D. light with a red lens and a chrome flange shall be installed on each side of the vehicle towards the rear of the body. These lights shall function as both running lights and turn signals.

EXTERIOR COMPARTMENT LIGHTING:

The compartment lighting for the exterior compartments noted above shall consist of LED lighting strips. Strips of LED lights shall be installed on each side of the compartment opening on the inside of the door jamb and shall direct the light back into the compartment. These light strips shall fit securely into clips installed in this location. These strips shall be semi rigid. Please note that rope lighting is not an acceptable alternative to this requirement.

ICC MARKER LIGHTS:

The bidder shall install LED marker/ICC lights as required by FMVSS regulations. The lights are to be a rolled design to conform to the contour of the upper corner posts of the body front and rear. The lights are to be a surface mount design. Lights that must be recessed into the body are unacceptable due to the weakening of the body structure caused by cutting into the extrusions. The contour of the lights shall be such that there shall be visibility from the sky as well as the front and rear of the vehicle.

The bidder should note that some lightbars have ICC lights already installed. In that case those lights shall be installed in lieu of the lights described here unless denoted within this document.

M9 SERIES LED SCENE LIGHT:

Whelen M9 Series LED Scene Lights shall be installed in the quantity and locations noted below. Each light shall include the optional chrome flange. These lights shall be activated by right and left side switches located within the front electrical control console. Additional means of activation, if any, are listed in the electrical section of these specifications.

Quantity: 4
Locate: Next to red flashing lights

LOAD LIGHTS:

Whelen M9 Series LED Scene Lights shall be installed in the quantity and locations noted below. Each light shall include the optional chrome flange. These lights shall be activated when the rear doors are opened, and by a switch located within the front electrical control console. Additional means of activation, if any, are listed in the electrical section of these specifications.

Quantity: 2
Locate: Over rear doors

TAIL LIGHTS:

Whelen M6 Series L.E.D. tail/brake, back-up, and turn signal lights shall be installed on the rear of the module body per the instructions listed below. All six of these lighting assemblies shall include the optional chrome flange. The tail/brake and turn signals shall be L.E.D. style lights. The back-up light shall be halogen.

Locate: Riser for brake and backup, rear of body for turn signals

ELECTRICAL POWER GROUP:

The vehicle electrical system is extremely important to this purchaser. The requirements for the onboard electrical system are noted in detail below. The bidder's electrical system, should it deviate in any way from that which is specified, shall be explained in detail. This explanation shall present facts relative to the bidder's system only. The bidder shall not draw any comparisons between the electrical system being offered, and the system being specified. Any comparisons or decisions regarding one system versus another will be made solely by the purchaser and shall be based entirely on the written description as provided by the bidder at the time the proposal is submitted. All decisions made by the purchaser as to the merits of one system over another will be final and will not be subject to discussion, either verbal or written, at any point. The Weldon V-Mux Electrical system is considered a comparable alternative to the electrical system being proposed in this section but clarifications and exceptions for differences between that and any other alternate system proposed must still be supplied in writing so the purchaser can fully evaluate and weight the differences prior to considering the pricing for a decision on award of the bid.

ELECTRICAL CONTROL SYSTEM STANDARDS:

The electrical control system must meet all current ambulance design standards to include, KKK 1822, NFPA 1917 and AMD. A system is desired that is easy to use, simple in design and allows electrical problem diagnosis and repair time to be minimized. The electrical system must be thoroughly engineered and manufactured to allow simple personnel operation. Finally, the system must be designed so that the probability of experiencing dead batteries, shorted electrical components and engaging in lengthy troubleshooting procedures will be reduced. In some cases the electrical output provided by the chassis charging system can be marginal and under certain circumstances the electrical load can exceed the alternator output. In addition, some electrical systems have not provided proper circuit protection and at times have not provided adequate wiring for the load. To address the above objectives, the following minimum electrical system design is required:

CONVERTER ADDED CHASSIS CHARGING ENHANCEMENT:

The basic design for the chassis electrical output system must include equipment that provides adequate electrical needs to operate the vehicle's electrical components. In addition, a system is desired that continually monitors the chassis voltage and amperage outputs. The end result of the desired electrical output system is longer battery life, less down time associated with charging system repairs, and the fulfillment of each and every emergency response.

BATTERY SELECTOR SWITCH:

A two-position power selector, turning the battery power to the ambulance systems either On or Off shall be furnished. The switch shall be located on or near the driver's seat base. Unless otherwise specified, the battery switch shall not disconnect power to the OEM chassis systems. Note: certain chassis are permitted from disconnecting chassis power switch this switch.

Automatic Throttle Advance:
In order to reduce the number of component parts and unnecessary throttle linkages, the factory electronic throttle control shall be utilized to activate the throttle advance system. The controls shall require that the chassis be placed in Park or Neutral with the Module Disconnect switch in the On position and the Park Brake engaged before activation of the throttle advance. A digital display warning on the driver console, accompanied by an audible tone, must instruct the driver to Set Park Brake or Release Park Brake to engage or disengage the automatic throttle control. No Exceptions.

AUTOMATIC LOAD MANAGEMENT:

In order to insure that onboard personnel attention is focused on victim care rather than being occupied with monitoring vehicle systems, an automatic load management system is required. The bidder must provide a system that continually monitors the vehicles charging system while it is sitting on scene. The system design shall have the ability to automatically shut down not less than ten pre-programmed electrical circuits to prevent a deficit charging condition while the vehicle is sitting at idle. The system shall be programmed to constantly scan the electrical system.

If a deficit charging condition continues for more than one minute, a pre-programmed circuit shall shut down, correspondingly reducing the electrical draw. If the deficit condition continues, a second circuit shall automatically shut down. This process shall continue to repeat at one-minute intervals until at least ten circuits are shut down with corresponding load reductions. In the event any circuits are being controlled (disabled) by the load management system, the driver must be informed in two ways. First, a digital display warning shall appear on the driver information panel indicating Load Management Active. At the same time, the L.E.D. switch indicator light shall begin to flash for each specific circuit that is being disabled. Systems that

cannot indicate specific circuits being affected by the Load Management System are not acceptable.

Load management systems must be programmed through a microprocessor based logic and memory system rather than a series of mechanical relays. Systems that require manual activation of Load Management will not be acceptable. Once the deficit condition ceases to exist, the system must be capable of restarting any disabled circuit without any action required by the driver. The bidder is required to furnish a system that permits the end user, if he so desires, to determine prior to production the order of priority for shedding loads. Although the entire system must function automatically, it must also be designed so that it can be set by the end user to a mode for restocking, training, or maintenance convenience. The System Off setting shall not be merely a switch which would permit the operator to easily turn off Load Management. The intent is to keep the system active at all times when the vehicle is in operation.

LOW AMPERAGE SWITCHING:

Electrical devices that are not activated automatically shall be controlled from either the cab or patient area control panels through the use of manual switches. A low amperage switch that sends only an on/off signal to the central electrical distribution area is required. The switches provided shall have documented durability ratings at a minimum of fifty million (50,000,000) cycles. The switch design shall include magnetic technology to attain the required durability ratings. Switches that are rocker style will not be acceptable due to their tendency to degrade and fail in continued field use. To eliminate loose or poor contacts, it is unacceptable to have soldered or terminal type connections for the switches. The switches must be an inherent part of the panels.

SWITCH "ON" INDICATOR LIGHT:

All switches (unless otherwise noted) on the panels described below shall include a red L.E.D. indicator light that will indicate when power is being applied to a circuit. Designs that have indicator lights that activate to indicate switch position only are not acceptable. In addition, the indicator lights shall be independently programmable to flash or steady burn as required to meet the end user specification.

SWITCH PANEL DESIGN:

Both the driver and the patient area switch panels must be designed so they can be easily decontaminated. Current designs make decontamination impossible when an attendant must use a contaminated glove to operate the switch panel while treating a patient. These areas become breeding grounds for bacteria. For this reason, the switch panels must be built in such a manner that there are no openings or crevices on the panel faces. The entire switch panel must be sealed with a protective overlay material. There shall be no printing or labeling on the face of this material. Holes in the panel through which switches, backlighting, or legends are inserted will be unacceptable. The panels must be cleanable with any commercially available spray type cleaner or disinfectant commonly used by EMS systems with no damage created by fluids leaking through openings onto the circuit boards or switch contacts.

The panels shall be spill resistant to shed accidental moisture from spilled soft drinks or coffee cups. In addition, the surfaces of the panels shall be antimicrobial. This antimicrobial property is to be inherent in the surface material itself and shall not need to be reapplied at any point in the future. Products offered that include aftermarket treatments of the panel surfaces will not be considered.

SWITCH PANEL BACKLIGHTING:

All switch perimeters shall be lighted and raised for ease of switch location at night. In addition, the control panels shall include a red color LED indicator to further distinguish switch activation. The switch panels shall include, on each panel, an individual intensity control. Switch panel lighting that operates at the same level as

the cab instrument panel or that illuminates both the front and rear panels at the same intensity will not be considered. The bidder must provide totally independent control for each panel.

CAB CONTROL SWITCHING AND LCD DISPLAY:

Switch Activation:

The cab control center shall include 8 critical buttons installed in protective enclosure with proper ventilation to maintain temperature. The following minimum circuits shall be provided on the switch panel:

-Module Disconnect
-Emergency Master
-Emergency
-Interior Lights
-Exterior Lights
-Home
-Apps
-Options

The following displays will appear on the Home screen of the cab console:

-Voltage (to the nearest 0.10 volt)
-Amperage (to the nearest amp)
-Outside Temperature
-Inside Patient Area Temperature
-Access or Compartment Door Open Warning Message and Display
-Electrical System Diagnostics
-24 Hour Clock
-HVAC
-Emergency Brake Warning
-Accent Lighting and Backlighting Controls
-Patient Warning

PATIENT AREA CONTROL SWITCHES AND LCD DISPLAY:

Switch Activation: Home

The patient area control center shall include 8 mission critical buttons installed in a backlight aluminum control panel. The following circuits shall be provided on the Home screen of the switch panel:

-Rear Heat/AC Activation and Separate Temperature Control
-Rear Heat/AC Fan Speed Control
-Power Vent
-Interior Lights
-Oxygen and Suction
-Patient Status
-Stop Clock
-Oxygen Line Pressure
-Oxygen Cylinder Pressure
-Exterior Lights

Digital Message Center:

The following digital displays shall appear on the faceplate of the patient area control console when selected:

-Patient Area Temperature
-Thermostat Setting

-Oxygen Tank Pressure
-Oxygen Line pressure
-Oxygen Warning

MODULE COMPARTMENT AND ACCESS DOOR SWITCHES:

Exterior circuits such as loading lights, side scene lights and compartment lights shall be activated by low amperage, non-mechanical switches. The type of switch desired is a magnetic sensitive switch that activates the circuit when the magnetic plane is broken. Plunger type switches are not acceptable because of their short useful life and higher amperage requirements.

DOOR OPEN INDICATOR:

A vehicle graphic door open warning indicator, with accompanying audible chime shall be installed in both the cab and patient area. A digital display shall appear on both consoles indicating which specific door has been left ajar.

Under no circumstances will red flashing lights or systems that do not specifically pinpoint a specific open door be acceptable.

CENTRAL ELECTRICAL DISTRIBUTION AREA:

The electrical system smart modules shall be independent and include their own logic. They must include RAM memory to execute commands without having to rely on a central CPU. The system must not be centered around the use of a logic-controlled microprocessor built into a single circuit board. This logic control system is required to maximize reliability of the electrical system and to minimize downtime. It must be provided in order to match the type of control system used in the chassis and to prevent communication problems caused when dissimilar systems are employed. The design of the system must totally separate chassis operation from converter feature installations. In the unlikely event of converter component failure, the chassis must still remain operable.

The computer based electrical system must utilize components similar in design to the computerized chassis functions such as the OEM cruise control system, fuel feed system, transmission control system and braking system.

MULTIPLEXED ELECTRICAL COMMUNICATIONS SYSTEM:

Because the chassis manufacturer has chosen multiplex electrical communication technology to operate the chassis system, this purchaser requires the same technology for the converter-added systems. A standardized electrical control and wiring system is required. The vehicle manufacturer must own and control all rights to the electrical system. Standard systems controlled by outside vendors and modified for a specific vehicle or manufacturer will not be acceptable due to the unpredictability for future parts or service. Switch panels or modules that are not standard in design and are not interchangeable from one unit to another will not be considered. Since solid state logic-controlled technology is commonly available and not proprietary to any one manufacturer and has been proven to be more reliable with greater benefits, a blanket exception or clarification regarding the electrical specification is not acceptable and will be cause for automatic rejection of the bid.

In addition, the system will consist of a series of input / output control modules to manage and feed information and to control the various circuits required by this specification. Each smart module must have 32 outputs and 10 inputs. The smart modules shall have a chassis gateway interface with a 120 amp max output. Mate-Lock connectors shall be used for all load connections. Molex connectors shall be used for data transmission lines. Under no circumstances will systems be acceptable that utilize screw type terminals or card connectors due to their susceptibility to working loose due to vibration normally encountered on a vehicle.

Under no circumstances may the operation of the central processing unit or the input or output modules be based upon the operation of mechanical relays. Relay based systems require higher amperage operating current and rely on mechanical contact points designed to degrade with use, creating short duty cycles for the vehicle electrical system. Relay based systems, due to those limited short duty cycles, will not be acceptable for the requirements of this specification.

UNIT FUNCTION:

The electrical control system shall be fully programmable and shall control a number of functions. The minimum functions to be controlled are as follows:

-No Load Starting Circuit
-Load Management
-Sequenced Start Circuit Activation
-Electrical System Diagnostics
-Climate Control Heat/AC operation
-Intensity Controls for Patient Dome Lights
-Oxygen Warning System (high and low pressure)
-All Warning Light Flashers and Flash Patterns
-Patient Status System
-Electrical Diagnostics

UNIT FUNCTION OPTIONS:

The electrical control system shall be capable of adding the following options:

-Up to four cameras
-Emergency GPS
-Pulse width Modulation
-USB port for field upgradability
-Seat belt monitor display
-Remote system activation from a mobile device
-Record ambulance PM schedule

The electrical control system shall include the ability to manage user defined maintenance issues. It shall also allow for the notification of critical care issues such as oil changes and tire rotations.

CIRCUIT PROTECTION:

Each converter added electrical circuit must have circuit protection for both over current limit and over temperature condition. The circuit protection shall be provided by solid-state circuit breaker/switching devices (MOSFETS) for both the input and output wire feeds for each circuit. The circuit protection shall require no user intervention such as that required for circuit breakers or fuses. The system shall be able to indicate an output fault warning.

FIELD PROVEN AND TIME TESTED ELECTRICAL SYSTEM:

The converter-added electrical system represents the most important system in the design of this ambulance. Reliability and proven performance is essential. Therefore, the bidder must be able to demonstrate that they have at least ten years' experience with solid state logic-controlled electrical systems installed in emergency vehicles. Further, the bidder must be capable of all programming required by the system without turning to outside vendors. This includes custom-programmed items as may be delineated in this specification.

The bidder may be required to demonstrate an in production or in service vehicle in order to guarantee compliance with this requirement. Prototype or first of a kind

electrical systems are not acceptable. The purchaser may require the bidder to furnish specific references to further document compliance.

WIRING:

The following minimum wiring standards are required:

Identification

By color, by itemized number, and by actual circuit name, stamped every 4-6"

Size:

Size will vary and will be dependent upon each wire being able to carry a minimum of 125% of the actual circuit load.

Protection of Wiring:

All wiring must be run in breakaway wire loom for protection against abrasion or chafing.

ELECTRICAL SYSTEM DIAGNOSTIC CHECK:

The electrical system must have built-in capability to self-check each converter-added circuit and identify a short or open circuit by means of a single diagnostic switch. . The diagnostic system shall be operable from the driver's seat without exiting the vehicle. Diagnostic systems that are incorporated into exterior compartments, patient area interior cabinets, or remote locations will not be acceptable. The relevant information shall be displayed on the digital display on the cab switch panel. When the operator activates the Run Diagnostic switch, the unit will initiate the systems check. The digital display shall flash the message Running Diagnostics while the check is in progress. The system must go through all outputs for the vehicle to check for malfunctions. If a malfunction is found, the display shall stop flashing and steady burn to indicate the message Module #, Output #, Fail. This message will direct the service staff to the correct output module and the correct wire number in order to troubleshoot and repair the system. Once a failure is identified, the operator may continue to run the remainder of the diagnostic by pressing the Warning Reset switch. The bidder shall furnish with the vehicle a detailed diagram indicating each input and output module number and identifying each circuit controlled by the module.

ELECTRICAL SYSTEM SUPPORT DATA:

Being able to service the electrical system should the need arise is of the utmost importance. To reduce the down time associated with servicing, the following information shall be provided at the time of delivery:

1. Electrical system operating instructions
2. 2. Patient area heating/AC schematic and parts list
3. 3. Oxygen and vacuum system schematic, parts list and leak check
4. instructions
5. Battery and alternator schematic and system description
6. 5. Radio communications installation instructions
7. 6. Wire description list for converter added wiring
8. 7. Individual schematics for all converter added electrical circuits

MODULE DISCONNECT DEFAULT:

The 'Module Disconnect' circuit shall default to the "on" position when the battery switch is activated. Manual activation of the switch is not acceptable.

BATTERY SWITCH:

A two position 'On-Off' "Master" battery switch shall be installed on the vehicle within easy reach of the driver. This switch shall control power to the converter-added electrical circuits. Items specified to be wired "Battery Hot" shall not be affected by the Master battery switch. Under no circumstances shall this switch control the chassis O.E.M circuitry. All chassis power (ignition, headlights, etc.) shall remain as designed by the chassis builder.

INVERTER INSTALLATION:

The vehicle converter shall furnish and install an inverter as noted below:

INVERTER: 20-1050CUL-DC W/CHARGER & 20 AMP AUX POW

The vehicle converter shall furnish and install a Vanner 20-1050CUL inverter with charger and 20 amp auxiliary power. The inverter shall be located as noted below and shall power each onboard electrical outlet. There shall also be a Vanner Interface Module, Inverter Status Panel, Charger Status Panel, and Control Switch furnished and installed at the location noted below. The "Charger" portion of this unit shall be wired to the vehicle shoreline circuit. This unit shall meet KKK specification.

Inverter Location:	Street side intermediate #2 compartment
Switch Location:	Inhalation Panel

110V INTERIOR OUTLETS:

Duplex 110V interior electrical outlets shall be installed. Quantity and location information is noted below. Each outlet shall be GFI protected and shall illuminate when powered.

Quantity:	4
Locate:	Inhalation area - Lower portion of front wall cabinet (surface mount in a weatherproof box) Wall head of bench Inside squad bench - rear section

110V EXTERIOR OUTLETS:

Duplex 110V exterior electrical outlets shall be installed. Quantity and location information is noted below.

12V OUTLETS:

12 volt electrical outlets shall be installed within the vehicle. Quantity, location, and adapter type are provided below. All 12 volt outlets shall be protected by a Schottky medical isolator. In addition, the 12 volt outlets shall be wired through a 20 amp manual reset circuit breaker. All outlets, unless noted otherwise below, shall be battery switched. All 12 volt outlets shall be labeled.

Adapter Type:	Cigarette Lighter Style
Quantity:	3
Locate:	Inhalation area Lower portion of front wall cabinet (surface mount in a weatherproof box)
Configure:	Hot at all times

SHORELINE:

The vehicle shall be equipped with a Kussmaul Auto Eject shoreline. The male shoreline inlet shall be installed as noted below. This inlet shall be a straight three-prong type and shall include the female adapter plug. The shoreline shall be designed so that the plug will automatically eject from the inlet in the event that the vehicle is

started while still plugged in. The shoreline shall include a hinged cover to protect it from the elements. The shoreline system shall be designed to handle a 20 amp load, and shall also include a 20 amp inline GFI breaker.

Locate: Street Side of Module Body as Far Forward as Possible

SHORELINE INDICATOR:

A small AC pilot indicator light shall be installed as noted below. The light shall be wired in after the applicable circuit breaker so as to indicate not only the presence of AC power, but the fact that the circuit breaker is in the closed position.

Locate: Over Shoreline Inlet

EXTRA CIRCUIT BREAKER:

A Spare 15 amp manual resetting circuit breaker shall be installed as a provision for the possible installation, at a later time, of additional equipment. This feature is in addition to any prewire that may be included elsewhere within this vehicle specification. The total number of spare breakers is listed below:

Quantity: 1

CAB SWITCH PANEL INSTALLATION:

The cab control panel for the converter-added electrical circuits shall be flush mounted in the upper face of the cab console. The mounting surface shall be angled downward so that the LCD screen and switches are visible to both the driver and passenger positions.

SIDE DOOR ACTIVATED CURB SIDE SCENES:

The curb side scene lighting shall be programmed to be activated when the patient compartment side access door is opened. This is in addition to the other modes of operation as described elsewhere within this document. This feature shall be attained through the programming of the onboard electrical system. Systems that require additional wiring in order to provide this feature are not acceptable.

REVERSE ACTIVATED LOADING LIGHTS:

The load lighting on the rear of the vehicle shall be programmed to be activated when the vehicle is placed into reverse gear. This is in addition to the other modes of operation as described elsewhere within this document. This feature shall be attained through the programming of the onboard electrical system. Systems that require additional wiring in order to provide this feature are not acceptable.

AUDIBLE LOW VOLTAGE ALARM:

An audible alarm shall be programmed to warn the operator should the vehicle's voltage drop below 11.8 volts for 120 seconds.

EMERGENCY BRAKE WARNING:

When the vehicle is placed into 'Park' or 'Neutral' with the "Module Disconnect" switch 'On' and the "Red Flashing Light" switch 'On', then an audible alarm, accompanied by a visual readout on the cab console digital display, shall warn the vehicle operator to engage the emergency brake. Likewise, when the vehicle is placed into gear, then the same alarm will sound with a visual display warning the operator to disengage the emergency brake.

REPORT LIGHT:

Report lighting, as described below, shall be installed within the patient area. The fixture shall be LED. The fixture shall be controlled via a switch on the attendant control panel. This design will allow for simple "one touch" operation while still providing for flexibility in terms of lighting needs.

Quantity: (1)

INTELLITEC LED CLOCK:

An Intellitec Time Manager Clock shall be provided and installed as noted below:

Locate: Action area

STEP WELL LIGHT:

A 10.5" LED Vista light strip will be installed on the bench side of the step well. Light to activate with door open through a magnetic door switch.

CAB CEILING LIGHTS, COMBINATION WHITE/RED LED:

One pair of LED cab ceiling lights shall be installed in the cab headliner. These lights are to feature both clear and red LEDs and can be operated via a switch mounted to the light. Light functions are to be 'OFF', 'CLEAR', and 'RED'.

PROGRAMMABLE LIGHT TIMER:

A momentary switch shall be installed as noted below to operate the specified lighting with the battery switch in the 'Off' position and the shoreline plugged in. The switch shall activate a programmable timer that will automatically shut the lights off after the specified period of time. This timer shall be field-programmable to allow the time to be adjusted after the vehicle has been delivered. The initial time setting shall be as follows:

Locate: Head of bench
Light(s) Controlled: LED dome lights
Initial Time Setting: 15 Minutes

DOME LIGHTS:

Whelen LED dome lights shall be installed in the patient area ceiling. Quantity and location information is listed below. The lights shall be recessed into the headliner and shall not protrude from the ceiling more than 1". All dome lighting shall be adjustable and shall be controlled via solid state switching at the patient area electrical control console.

Over Cot: 3
Over Squad Bench: 3
Walkthrough: 1

HAND HELD SPOT LIGHT:

An Optronics 400,000 CP hand-held spot light shall be installed in the cab area. The light shall include a momentary switch for activation. A bracket shall be included to hold the light when it is not in use. This bracket shall provide quick and simple access to the light. Retention designs that require two hands to remove the light for operation will not be acceptable.

Locate: Behind driver's seat on the aisle side

AUXILIARY BRAKE LIGHTING:

The rear red conspicuity/chevron lighting noted above shall be wired so that they illuminate when the brake pedal is depressed. This lighting is in addition to the specified brake/tail lights.

Configure: Brake lights to override emergency flashers

AUXILIARY TURN SIGNALS:

The rear amber conspicuity/chevron lighting noted above shall be wired so that they illuminate with the turn signals. This lighting is in addition to the specified turn signals.

Configure: Turn signal function to override emergency flashers

SECURITY IDLE SYSTEM:

A solid state security idling system shall be provided on the vehicle. With the system in the on position, the driver may remove the vehicle keys with the engine running. If the vehicle is placed in gear without returning the keys to the ignition, the system will sound the vehicle horn, flash the marker lights and automatically shut down the engine to prevent vehicle theft. The desired system must be integrated into the vehicles programmed electrical system. Aftermarket add-on units are not acceptable.

SPECIAL INSTRUCTION, ELECTRICAL & PROGRAMMING:

Supply and install a Mermaid Medi-Kool 4.0 Climate Controlled Drug cabinet in the upper portion of the front wall cabinet. Wire to the 12V system, unit to include a right hinged door. Ordered with compressor location for suitable mounting and venting.

HEATING AND AIR CONDITIONING:

A temperature control system is desired that provides quick and simple operation while maintaining a uniform temperature throughout the patient compartment. The unit itself must be located so that it is easy to access for service. This location must also be near the O.E.M. heat/AC connection points when provided so as to increase the overall efficiency of the unit. The following minimum design standards must be adhered to in order to best meet the needs of this purchaser.

SYSTEM CONTROLS:

The climate control functions shall be controlled through a primary location in the inhalation panel, and through a secondary location in the cab electrical control console. The switches used for the operation of this system shall be identical to the switches described in the "Electrical" section of this specification. Switches shall be present in the front console to select either 'Heat', 'A/C', or 'Off' functions and to select the desired temperature. Switches shall be present in the rear control panel to select either 'Heat', 'A/C', or 'Off' functions, 'Automatic' or 'Manual' mode of operation, and to select the desired temperature.

THERMOSTAT:

The temperature level shall be adjustable from both the front and rear electrical control panels for the 12V system. Two switches at each location shall be used to scroll through desired temperature settings on one degree intervals. Once the desired temperature is set, then the system shall retain that setting regardless of the position of the battery switch. The temperature sensor for the system shall be located at the inhalation panel so as to attain a true patient compartment temperature. The temperature setting and the actual temperature reading shall be viewable from both the front or rear digital displays.

This system is to be controlled through the converter-added electrical system. Under no circumstances shall household type thermostats be acceptable.

SYSTEM OPERATION:

The system shall allow for both automatic and manual operation. When set to the manual mode the fan speed shall be infinitely adjustable from the rear control panel for extra ventilation. When set to the automatic mode the fan speed shall be controlled by the thermostat setting. The temperature that is selected shall be continuously maintained. When the selected temperature has been reached, then the system shall automatically cycle the fan speed down to reduce unnecessary electrical load.

UNIT LOCATION AND SERVICE:

It is required that the heat/AC unit be installed inside a custom-made aluminum box beneath the attendant's seat. This box shall be perforated to provide air flow to the heat/AC unit mounted beneath the seat. This is required for efficiency, serviceability, and safety.

Many O.E.M. chassis builders provide tap-in points for the converter-added heat/AC unit behind the driver's seat. Therefore, system efficiency is higher when the hot water from the chassis is pumped to the area beneath the attendant's seat. Efficiency is not lost by pumping the water over an extended distance or up to ceiling level. Such a condition would naturally result in reduced patient area temperature levels as excessive flow resistance would be present.

The attendant's seat shall be installed on a hinged top cover for the aluminum heat/AC system housing. This allows the seat to be hinged forward and out of the way for service work. The unit will be accessible by removing three bolts located behind the seat and lifting the seat forward as opposed to dismantling cabinetry, etc.

FILTRATION SYSTEM:

A replaceable carbon filter shall be installed at the air intake area of the heat/AC system. Replacement of the filter shall be simple, and shall require very little time so as to assure that the vehicle will not have to be taken out of service. Replacement filters shall be readily available and shall be capable of being cut to the proper size to fit the vehicle.

AIR FLOW:

The installation of the heat/AC system shall include an air duct system to direct the airflow in such a way as to provide uniform temperature levels throughout the patient compartment. Air intake shall be from the floor level. The air shall be channeled through a duct that is aft of the heat/AC unit. The air shall exit through adjustable vents at the ceiling level above the attendant's seat. This design will allow for a circular flow of air throughout the patient compartment.

The specified design will separate the intake and exhaust ports. Separation of the intake and exhaust will decrease air turbulence and improve overall efficiency of the system. Systems that combine intakes and exhausts within the same grille work will not be acceptable.

12V HEAT/AC SYSTEM:

The 12V heat/AC system shall be installed per the instructions listed above. The BTU and CFM ratings on this unit shall be as follows:

Heat	65,000BTU
A/C:	32,000BTU
CFM:	650

VENTING SYSTEM:

Install a 400cfm exhaust and a static intake vent. Each vent cover is to the 9.5" square and is to feature a polished finish.

CAB CONSOLE AND COMMUNICATIONS:

The vehicle communications and console features are designated below:

ANTENNA COAX #1:

An RG 58U coax shall be installed. A removable access plate in the patient area ceiling shall be provided for access to the exterior termination point located on the module body roof. Under no circumstances shall the vehicle design necessitate disassembly of the interior finish work to access the coax termination point. The coax shall terminate at the following locations:

Exterior Termination: Front center of mod roof
Interior Termination: Behind passenger seat with 5' coiled

ANTENNA COAX #2:

A second RG 58U coax shall be installed. A removable access plate in the patient area ceiling shall be provided for access to the exterior termination point located on the module body roof. Under no circumstances shall the vehicle design necessitate disassembly of the interior finish work to access the coax termination point. The coax shall terminate at the following locations:

Exterior Termination: Center of mod roof
Interior Termination: Behind passenger seat with 5' coiled

ANTENNA COAX #3:

A third RG 58U coax shall be installed. A removable access plate in the patient area ceiling shall be provided for access to the exterior termination point located on the module body roof. Under no circumstances shall the vehicle design necessitate disassembly of the interior finish work to access the coax termination point. The coax shall terminate at the following locations:

Exterior Termination: Rear center of mod roof
Interior Termination: Behind inhalation with 5' coiled

RADIO PULL WIRE:

A pull wire shall be installed to aid radio cable installation and prevent removal of interior panels once the vehicle has been completed.

Location: Behind driver's seat
Terminate: Inhalation area

FRONT CONSOLE:

A console shall be installed in the cab. The console shall be installed at floor level and shall allow space for siren and radio head installation. The console shall be color coordinated with the cab interior. The top of the console shall be on a slant and shall house the recessed emergency control panel and integral digital display. Under no circumstances shall the console interfere with the OEM vehicle controls or gauges, nor shall the control panel be installed in such a manner as to interfere with either the OEM vehicle controls, gauges, or the driver's line of vision.

CONSOLE EXTENSION:

An aluminum console extension shall be fabricated and installed in the vehicle cab. The extension shall attach to the front console and shall include a location to mount siren and/or radio heads, as well as three slots for storage of map books and binders. The console extension shall be covered in black heavy duty wear material to compliment the interior cab color.

CUP HOLDERS:

Two (2) large cup holders shall be installed in the front console with easy access from both the driver's and the passenger's seats.

RADIO CABLE INSTALLATION:

The purchaser shall supply radio cables for installation by the successful bidder. This will aid in the final radio installation, which is to be done after the purchaser has taken delivery of the completed unit. The cables shall be supplied upon request by the manufacturer during vehicle construction. The number of cables and the exact installation location are as follows:

Quantity:	1
Locate:	Inhalation area to behind driver seat

RADIO POWER/GROUND:

The vehicle manufacturer shall install three heavy gauge cables for radio power. One cable to be wired battery hot, one cable to be wired ignition hot and one cable to be wired as ground. Termination is to be to insulated studs.

Locate:	(2 SETS)
Locate:	Front console and rear inhalation area
Configure:	battery switched, battery hot and ground

OXYGEN AND SUCTION SYSTEMS:

Reliability, safety, and ease of operation are essential characteristics of the onboard oxygen and suction systems. System design must meet the following minimum guidelines. Bidders are asked to respond to each section appropriately per the bid requirements and to explain any variations to these requirements.

SWITCHING FOR OXYGEN AND SUCTION:

The rear switch panel shall contain two switches labeled "OXYGEN" and "VACUUM". Each of these switches shall electrically activate those respective systems. That activation shall be instantaneous. Systems that are not instantaneously responsive to their activation will not be considered.

SYSTEM DESIGN:

A single piece manifold assembly shall serve as the basis for the oxygen delivery system. The manifold assembly shall incorporate ports for installation of O2 lines to all specified outlets, an electrically activated oxygen delivery solenoid, and a manual bypass valve. The assembly shall be installed behind the inhalation panel and shall be easily accessible.

ELECTRICAL OXYGEN ACTIVATION:

The switch, located on the rear control panel and labeled "OXYGEN", shall activate the solenoid. This design will allow for the instantaneous flow of oxygen while eliminating the need to manually turn a valve to initiate oxygen flow.

MANUAL BYPASS:

The oxygen solenoid shall be equipped with a manual bypass valve. Located behind the inhalation panel, the valve shall be easily accessible so that, in the unlikely event of an electrical failure, administration of oxygen may continue.

SYSTEM REGULATION:

The patient area shall be free of high pressure oxygen lines. To accomplish this the vehicle converter shall install a KKK approved regulator at the oxygen cylinder. The regulator shall include an integral dial type gauge to monitor the cylinder contents. A single low pressure line shall be installed from the regulator to the O2 manifold assembly. This method shall insure that all high pressure is maintained in an exterior compartment away from the interior patient area.

OXYGEN LINES:

The O2 line connecting the regulator to the manifold assembly shall be rated at 200 psi working pressure and 1,250 psi burst pressure. The line shall be UL approved. There shall be NO connections installed in the line between the regulator and manifold assembly as these create a possibility for leakage. All connections shall be DISS style and shall be specific to the gas being supplied.

LINE PROTECTION:

The O2 line shall be protected from crimping through the installation of a flexible spring guard on the portion of the line in the cylinder storage compartment.

SYSTEM MONITORING:

The condition of the oxygen system shall be continually monitored and reported to the vehicle operators through the vehicle's onboard electrical system. Readouts containing the information listed below shall be available primarily at the patient area control console. The secondary location for availability of this information shall be the cab console. The information available shall include the following:

-Cylinder Pressure
-Line Pressure

In addition, this system shall be designed to offer a warning, both audible and visual, if the condition of the oxygen system falls outside of the following pre-programmed parameters:

-Low Cylinder Pressure (500 psi or below)
-Low Line Pressure (40 psi or below)
-High Line Pressure (75 psi or above)

These oxygen system warnings shall immediately notify the personnel of a problem, again, via a readout and audible alarm. The system shall require the personnel to acknowledge receipt of the information.

PRELIMINARY SYSTEM TESTING:

The oxygen system shall be tested prior to installation in the vehicle. This test shall be performed by the vehicle manufacturer and shall subject the system to three times (3X) the working pressure. This test shall be conducted for a minimum of four (4) hours.

FINAL SYSTEM TESTING:

The completed system shall be tested again once it is installed in the vehicle. This test shall be performed at working pressure for a minimum of four (4) hours. After the

system has passed the inspection process it shall be capped and tagged per Federal KKK specifications.

ADDITIONAL OXYGEN AND VACUUM SUPPLIES:

The oxygen and suction systems shall be complete upon delivery with the exception of the O2 cylinder. The cylinder shall be supplied and installed by the purchaser after delivery of the vehicle has taken place.

OXYGEN OUTLETS:

Two oxygen outlets shall be installed in the rear inhalation panel unless otherwise noted below.

ADDITIONAL OXYGEN OUTLETS:

Additional oxygen outlets shall be installed as noted below.

Quantity:	2
Locate:	Ceiling over head of cot
	Wall at head of bench

OHIO MEDICAL OXYGEN AND SUCTION OUTLETS:

The oxygen and suction outlets installed in the vehicle shall be Ohio Medical Quick Connect style outlets.

CYLINDER WRENCH:

A cylinder wrench shall be installed inside the oxygen compartment. The wrench shall be installed in such a way as it will not move or rattle. The wrench shall be chained to the compartment so that it cannot be removed, however, the chain must not interfere with the operation of the wrench.

SPARE 'D' BOTTLE STORAGE:

A cabinet shall be recessed into the front of the squad bench riser on the step well side. This area shall house three (3) 'D' size oxygen cylinders. Each section of this cabinet shall feature minimum dimensions of 4.5" X 21". The cabinet door shall be trimmed to match the module interior and shall include a Tri Mark handle.

SSCOR ASPIRATOR:

The manufacturer shall furnish and install an SSCOR suction system. The system shall include a #22000 wall-mounted regulator, and a #23002 canister holder. The aspirator shall be accessible for use from the inhalation area per the attached prints and plumbed to the pump described below.

VACUUM PUMP:

The aspirator system shall be operated through a CAPL #D34 SE (T282) 12V vacuum pump that is located inside an exterior compartment. The pump shall be activated by a switch on the inhalation area electrical control panel.

LETTERING AND STRIPING DESIGN:

This specification calls for lettering to be supplied and installed by the successful bidder. The lettering layout is summarized within this section and broken down by location in the sections below. Information relative to lettering material, size, color, font, or any other special requirements is also listed in the following sections. The lettering layout is to be as follows:

Curb Side
"FREDERICKSBURG" 6 Black Ruby Red Scotchlite 14
Maltese Cross w/ flag and star of life 12 6-Colors White Scotchlite 1
"FIRE DEPT." 4 Black Ruby Red Scotchlite 9
"ADVANCED LIFE SUPPORT" 2 Black Ruby Red Scotchlite 19
"MEDIC #" 3 Black Ruby Red Scotchlite 6
Install customer supplied decal (In stripe) - - - 1

Street Side
"FREDERICKSBURG" 6 Black Ruby Red Scotchlite 14
Maltese Cross w/ flag and star of life 12 6-Colors White Scotchlite 1
"FIRE DEPT." 4 Black Ruby Red Scotchlite 9
"ADVANCED LIFE SUPPORT" 2 Black Ruby Red Scotchlite 19
"MEDIC #" 3 Black Ruby Red Scotchlite 6
Install customer supplied decal (In stripe) - - - 1

Front
"AMBULANCE" (Reversed - Hood) 4 Black Ruby Red Scotchlite 9
4" Star of Life 4 Blue/Black White Scotchlite 1
"MEDIC #" 3 Black Ruby Red Scotchlite 6

Rear
"FREDERICKSBURG" 4 Black Ruby Red Scotchlite 14
"AMBULANCE" 3 Black White Scotchlite 9
"FIRE DEPT." 4 Black Ruby Red Scotchlite 9
12" Star of Life 12 Blue/Black White Scotchlite 1
"MEDIC #" 3 Black Ruby Red Scotchlite 6

Roof
NO LETTERING

Striping
4" Scotchlite Beltline Stripe 4 - Ruby Red Scotchlite 1
1/4" Border (Above and below beltline) 0.25 - Black Vinyl 1
1" Coburn Gold Stripe with Black edges 1.25 Black Coburn Sim. Gold 1
Folded Ribbon Transition (No shading) - - Ruby Red Scotchlite 1
Coburn Gold Heartbeat - - Coburn Sim. Gold 1
4" Skirtline Stripe (Body sides and cab only) 4 - Ruby Red Scotchlite 1
1/4" Border (Above and below skirtline) 0.25 - Black Vinyl 1

Chevron
2-Color Diamond Grade Chevron (Full Rear) 3M Diamond Grade 1
Color 1: Red
Color 2: Fluorescent Yellow-Green

Dealer Preparation and Delivery

A representative of the selling distributor shall inspect the vehicle prior to acceptance from the manufacturer and shall drive the completed unit back to the dealership for final prep and delivery to the end user.

OPTIONAL CHASSIS PRICING FOR CITY OF FREDERICKSBURG
FREDERICKSBURG FIRE DEPARTMENT AMBULANCE RFP #2015-AMB-01

It is the desire of the Fredericksburg Fire Department to have the flexibility during the term of this contract to have alternate chassis choices to purchase from. This is in recognition of the changing requirements in the EMS response community and its desire to be prepared to meet these demands with different chassis platforms to choose from during the contract period. The following option pricing should be supplied in response to the RFP.

Option A:

2016 Ford F450 4x2 108" C/A including the following options not listed in the primary RFP:

Liquid Spring Suspension System
Crawl Through Option
Aluminum Rims with Top Hats

Option Price: $ _____

Option price to upgrade to OEM 4x4 Option: $ _____

Option B:

2016 Dodge RAM 4500 4x2 108" C/A including the following options not listed in the primary RFP:

Liquid Spring Suspension System
Crawl Through Option
Aluminum Rims with Top Hats

Option Price: $ _____

Option price to upgrade to OEM 4x4 Option: $ _____

Option C:

2016 Ford E450 Triton V-10 Gas Engine 100" C/A

Option Price: $ _____

Option D:

2016 International Terrastar 108" C/A including the following options not listed in the primary RFP:

- Kussmaul Auto Pump Compressor Model 091-0 with the following options, 091-9G Auto Clean, 091-9H Mounting Plate, 091-9-AD Pre-installed auto drain, and 091-150 auto pump timer.
- Aluminum Rims
- Maxxforce 7 300 HP
- Allison 2400 Series EVS transmission
- Walk Through Access
- OEM Air Ride
- Batteries located on curbside forward compartment of body

Option Price: $ _____

Option E:

2016 International 4300 Durastar 108" C/A including the following options not listed in the primary RFP:

- Kussmaul Auto Pump Compressor Model 091-9 with the following options, 091-9G Auto Clean, 091-9H Mounting Plate, 091-9-AD Pre-installed auto drain, and 091-150 auto pump timer.
- 19.5" Aluminum Rims
- Walk Through Access
- Cummins ISB 6.7-260 HP engine
- Allison 2200 EVS series transmission
- Vertical exhaust with chrome tip
- Dual adjustable leveling valves
- Air brakes
- OEM Air Ride
- Batteries located on curbside forward compartment of body

Option Price: $ _____

Option F:

2016 Freightliner M2 108" C/A including the following options not listed in the primary RFP:

- Kussmaul Auto Pump Compressor Model 091-9 with the following options, 091-9G Auto Clean, 091-9H Mounting Plate, 091-9-AD Pre-installed auto drain, and 091-150 auto pump timer.
- 19.5" Aluminum Rims
- Walk Through Access
- Cummins ISB 6.7-260 HP engine
- Allison 2200 EVS series transmission
- Vertical exhaust with chrome tip
- Dual adjustable leveling valves
- Air brakes
- OEM Air Ride
- Batteries located on curbside forward compartment of body

Option Price: $ _____

Option G:

2016 Kenworth T300 108" C/A including the following options not listed in the primary RFP:

- Kussmaul Auto Pump Compressor Model 091-9 with the following options, 091-9G Auto Clean, 091-9H Mounting Plate, 091-9-AD Pre-installed auto drain, and 091-150 auto pump timer.
- 19.5" Aluminum Rims
- Walk Through Access
- Paccar PX-7 300EV 300 HP @ 2600 RPM engine
- Allison 2200 EVS series transmission
- Air brakes
- Horizontal exhaust
- OEM Air Ride

Option Price: $ _____

Option H:

In addition to the 12V heat/AC system specified in the RFP the department requires an option price on a top mount condenser. It is preferable that the condenser shall be recessed into the roof in a position to not interfere with the front wall lighting or the height of the vehicle. Underbody condenser design is not acceptable. The condenser under no circumstances shall be mounted in the front half of the body due to weight considerations on the front axle. If condenser is mounted in front half of body the option should indicate the weight of the condenser and all components required to mount condenser in this location so the department can fully evaluate its effect on the front axle rating.

The external condenser shall be capable of producing 100,000 BTU's of cooling capacity. It shall have a minimum of four flat mounted smart fans with a minimum flat surface area of 825 square inches. It shall be a smart condenser system and shall activate fans one at a time based on system demand. The system shall reduce and optimize the condenser AMP draw while reducing wear and tear on alternators and batteries. The 100,000 BTU's of added capacity will also reduce high head load on compressors while ensuring the best performance in high temperature and high humidity climates.

Does the bidder comply with these requirements?

Yes ____ No ____

Weight of condenser and components if mounted in front half of ambulance body _____lbs.

Option Price: $ _____

Option I:

The department requests an option price for On Spot Automatic Tire Chains with switch activation on the front console. Option price should include the On Spot Chain Trays mounted underneath to prevent chains from dragging and catching items when not in use.

Does the bidder comply with these requirement?

Yes ____ No ____

Option Price: $ _____